



Beginner to Pro in Excel: Financial Modeling and Valuation

365  Careers

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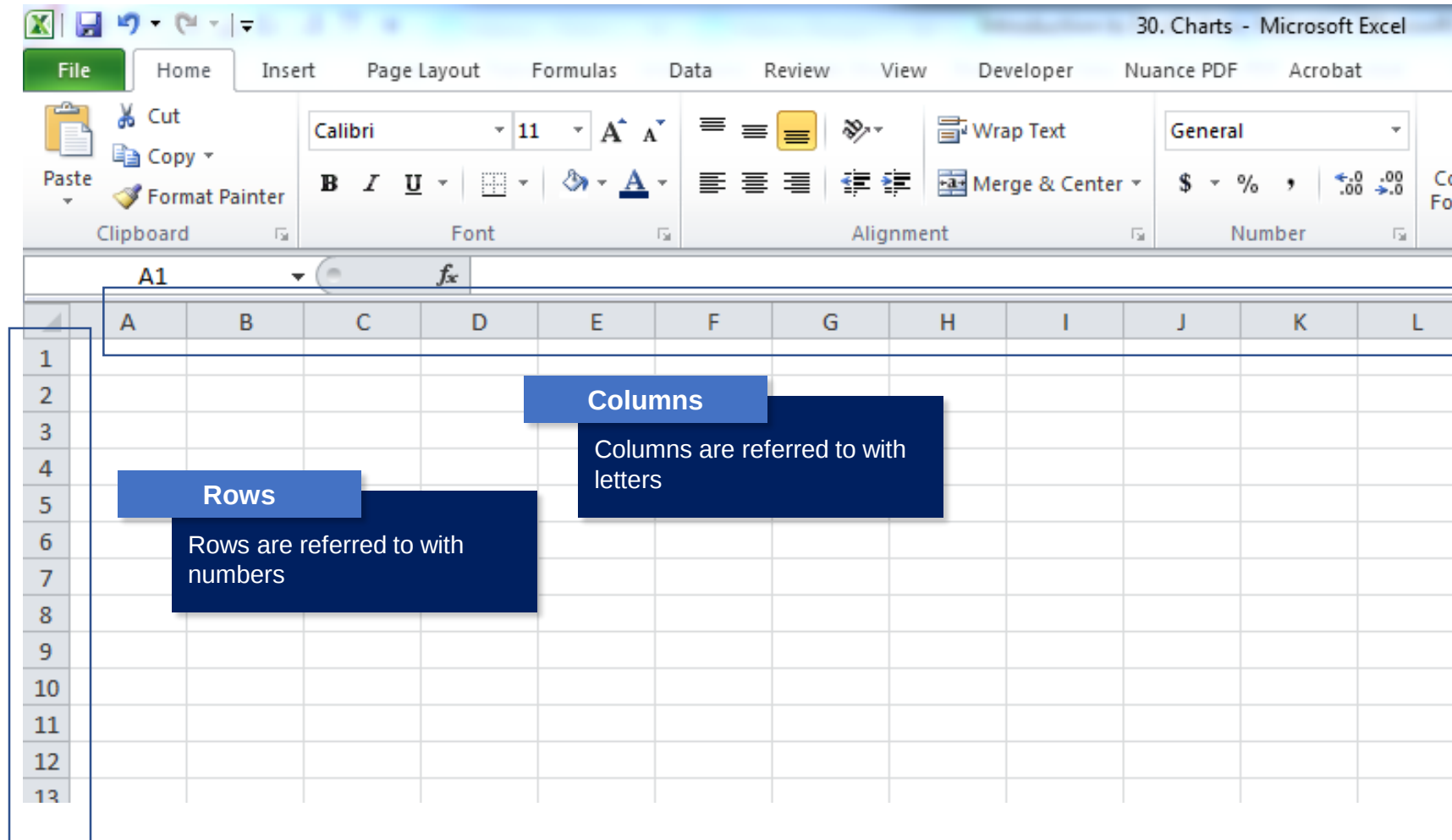
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I. Introduction to Excel's basic features

Column and Row references

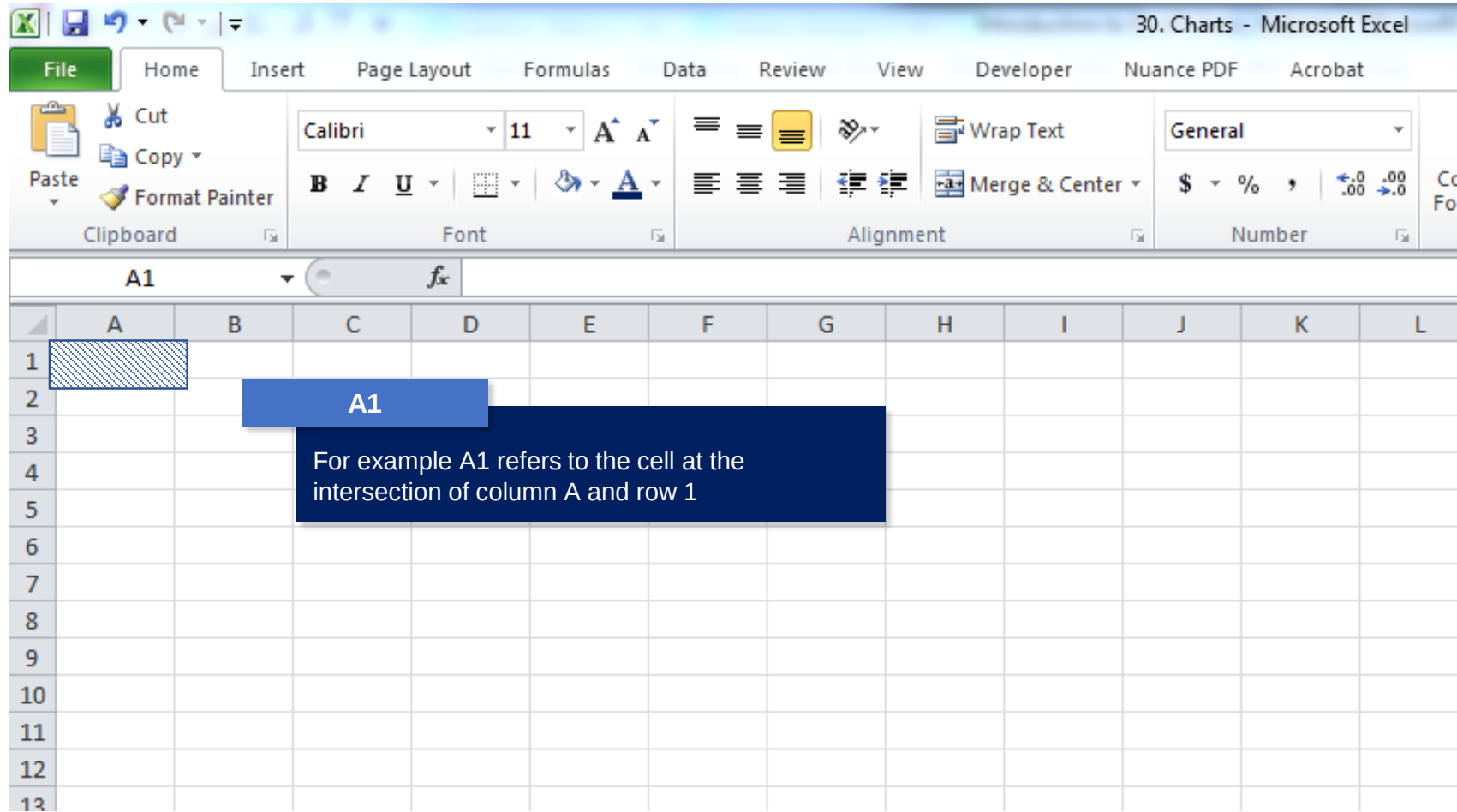


The screenshot displays the Microsoft Excel interface. The ribbon at the top includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Nuance PDF, and Acrobat. The Home tab is active, showing groups for Clipboard (Cut, Copy, Paste, Format Painter), Font (Calibri, 11, Bold, Italic, Underline, Text Color, Background Color), Alignment (Left, Center, Right, Indent, Wrap Text, Merge & Center), and Number (General, Currency, Percentage, etc.). The worksheet grid shows columns labeled A through L and rows numbered 1 through 13. A blue box highlights the column headers (A-L), and a dark blue box with the text "Columns" and "Columns are referred to with letters" is positioned over this area. Another blue box highlights the row numbers (1-13), and a dark blue box with the text "Rows" and "Rows are referred to with numbers" is positioned over this area.

Columns
Columns are referred to with letters

Rows
Rows are referred to with numbers

Column and Row references



Name box

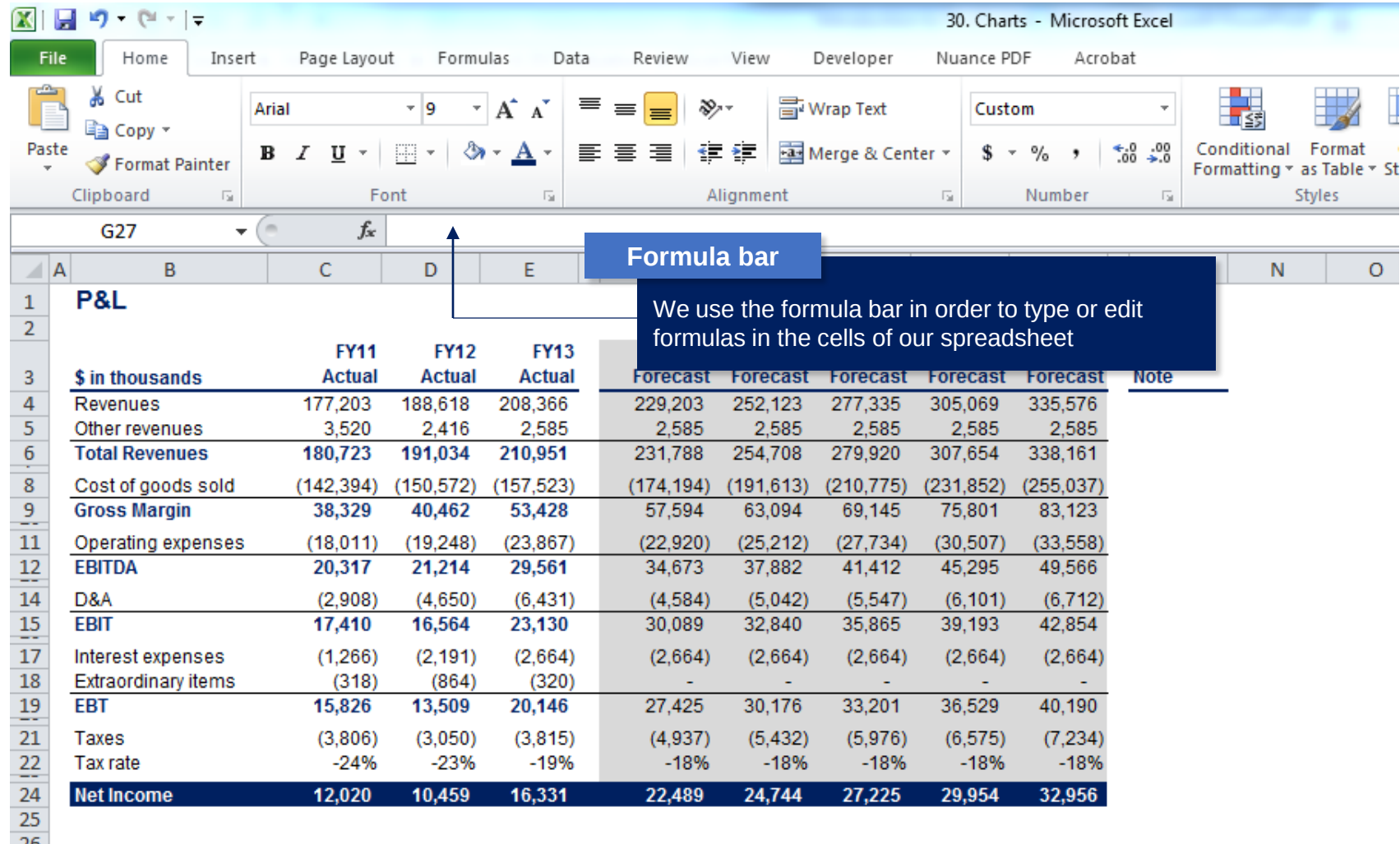
The screenshot shows the Microsoft Excel interface with the 'Name box' highlighted. The Name box displays 'G27', which is the cell reference of the active cell. A blue callout box explains that the Name box displays the cell reference of the active cell (the one we have clicked on).

The active cell is G27, which contains the text 'P&L'. The table below shows financial data for FY15, FY16, FY17, and FY18. The table is titled 'P&L' and includes a 'Note' column.

		FY15	FY16	FY17	FY18	Note			
	\$ in thousands	Forecast	Forecast	Forecast	Forecast				
Revenues	177,203	188,618	208,366	229,203	252,123	277,335	305,069	335,576	
Other revenues	3,520	2,416	2,585	2,585	2,585	2,585	2,585	2,585	
Total Revenues	180,723	191,034	210,951	231,788	254,708	279,920	307,654	338,161	
Cost of goods sold	(142,394)	(150,572)	(157,523)	(174,194)	(191,613)	(210,775)	(231,852)	(255,037)	
Gross Margin	38,329	40,462	53,428	57,594	63,094	69,145	75,801	83,123	
Operating expenses	(18,011)	(19,248)	(23,867)	(22,920)	(25,212)	(27,734)	(30,507)	(33,558)	
EBITDA	20,317	21,214	29,561	34,673	37,882	41,412	45,295	49,566	
D&A	(2,908)	(4,650)	(6,431)	(4,584)	(5,042)	(5,547)	(6,101)	(6,712)	
EBIT	17,410	16,564	23,130	30,089	32,840	35,865	39,194	42,854	
Interest expenses	(1,266)	(2,191)	(2,664)	(2,664)	(2,664)	(2,664)	(2,664)	(2,664)	
Extraordinary items	(318)	(864)	(320)	-	-	-	-	-	
EBT	15,826	13,509	20,146	27,425	30,176	33,201	36,530	40,190	
Taxes	(3,806)	(3,050)	(3,815)	(4,937)	(5,432)	(5,976)	(6,519)	(7,062)	
Tax rate	-24%	-23%	-19%	-18%	-18%	-18%	-18%	-18%	
Net Income	12,020	10,459	16,331	22,489	24,744	27,225	29,954	32,956	

A blue callout box labeled 'Later...' explains that we will see how to assign names to cell ranges using the name box.

Formula bar



The screenshot shows the Microsoft Excel interface with the 'Formulas' tab selected. The formula bar is highlighted, and a blue callout box explains its purpose: 'We use the formula bar in order to type or edit formulas in the cells of our spreadsheet'.

The spreadsheet displays a P&L statement with the following data:

	FY11 Actual	FY12 Actual	FY13 Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Note
\$ in thousands									
Revenues	177,203	188,618	208,366	229,203	252,123	277,335	305,069	335,576	
Other revenues	3,520	2,416	2,585	2,585	2,585	2,585	2,585	2,585	
Total Revenues	180,723	191,034	210,951	231,788	254,708	279,920	307,654	338,161	
Cost of goods sold	(142,394)	(150,572)	(157,523)	(174,194)	(191,613)	(210,775)	(231,852)	(255,037)	
Gross Margin	38,329	40,462	53,428	57,594	63,094	69,145	75,801	83,123	
Operating expenses	(18,011)	(19,248)	(23,867)	(22,920)	(25,212)	(27,734)	(30,507)	(33,558)	
EBITDA	20,317	21,214	29,561	34,673	37,882	41,412	45,295	49,566	
D&A	(2,908)	(4,650)	(6,431)	(4,584)	(5,042)	(5,547)	(6,101)	(6,712)	
EBIT	17,410	16,564	23,130	30,089	32,840	35,865	39,193	42,854	
Interest expenses	(1,266)	(2,191)	(2,664)	(2,664)	(2,664)	(2,664)	(2,664)	(2,664)	
Extraordinary items	(318)	(864)	(320)	-	-	-	-	-	
EBT	15,826	13,509	20,146	27,425	30,176	33,201	36,529	40,190	
Taxes	(3,806)	(3,050)	(3,815)	(4,937)	(5,432)	(5,976)	(6,575)	(7,234)	
Tax rate	-24%	-23%	-19%	-18%	-18%	-18%	-18%	-18%	
Net Income	12,020	10,459	16,331	22,489	24,744	27,225	29,954	32,956	

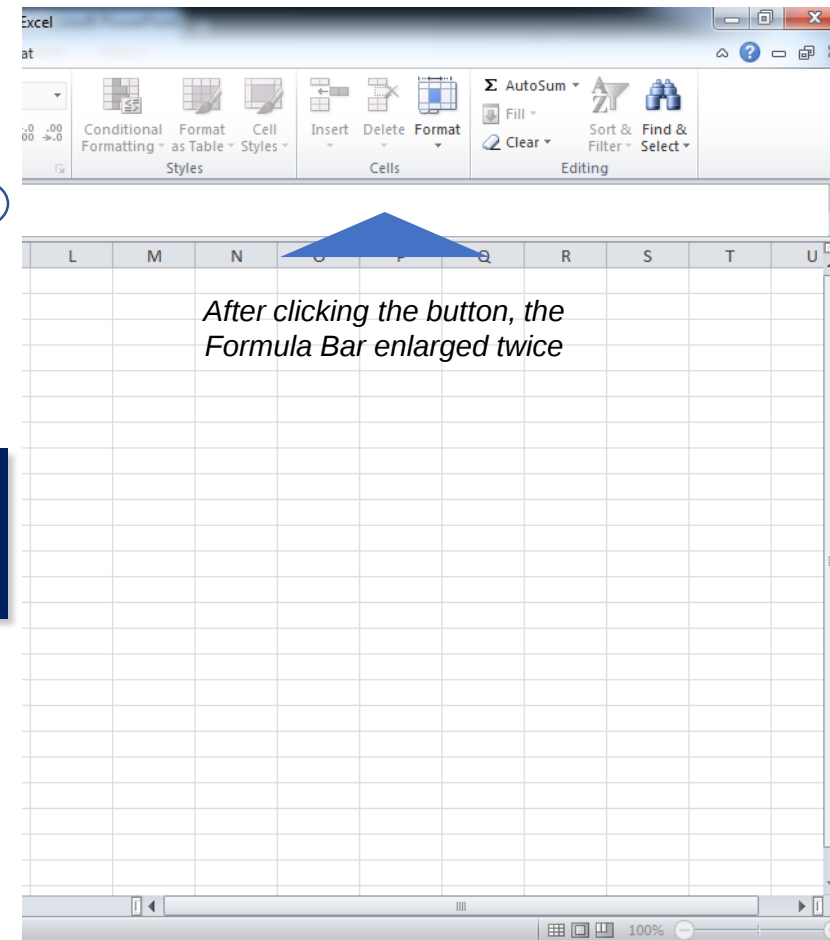
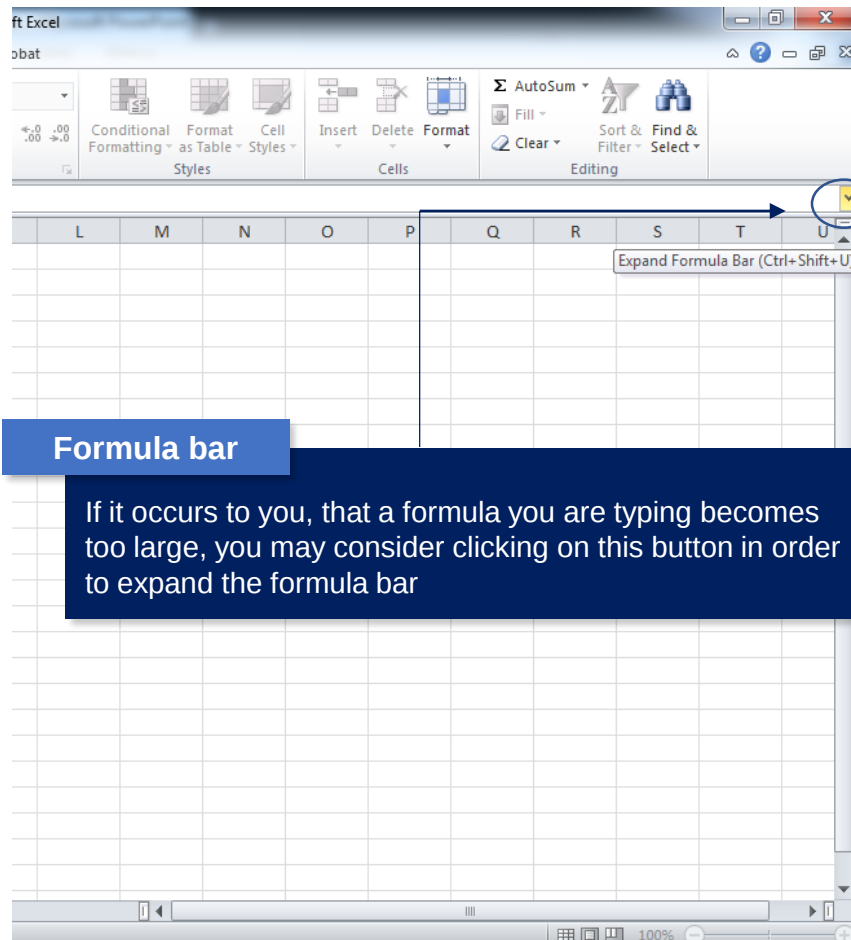
Formula bar

Formula bar

Once you start typing, the formula bar would provide suggestions for the formula that you might be looking for. It will also display the necessary arguments of the formula once you select it

		FY11	FY12	FY13					
		Actual	Actual	Actual					
3	\$ in thousands								
4	Revenues	177,203	188,618	208,366					
5	Other revenues	3,520	2,416	2,585		2,585	2,585	2,585	2,585
6	Total Revenues	180,723	191,034	210,951		231,788	254,708	279,920	307,654
8	Cost of goods sold	(142,394)	(150,572)	(157,523)		(174,194)	(191,613)	(210,775)	(231,852)
9	Gross Margin	38,329	40,462	53,428		57,594	63,094	69,145	75,801
11	Operating expenses	(18,011)	(19,248)	(23,867)		(22,920)	(25,212)	(27,734)	(30,507)
12	EBITDA	20,317	21,214	29,561		34,673	37,882	41,412	45,295
14	D&A	(2,908)	(4,650)	(6,431)		(4,584)	(5,042)	(5,547)	(6,101)
15	EBIT	17,410	16,564	23,130		30,089	32,840	35,865	39,193
17	Interest expenses	(1,266)	(2,191)	(2,664)		(2,664)	(2,664)	(2,664)	(2,664)
18	Extraordinary items	(318)	(864)	(320)		-	-	-	-
19	EBT	15,826	13,509	20,146		27,425	30,176	33,201	36,529
21	Taxes	(3,806)	(3,050)	(3,815)		(4,937)	(5,432)	(5,976)	(6,575)
22	Tax rate	-24%	-23%	-19%		-18%	-18%	-18%	-18%
24	Net Income	12,020	10,459	16,331		22,489	24,744	27,225	29,954

Expanding the formula bar

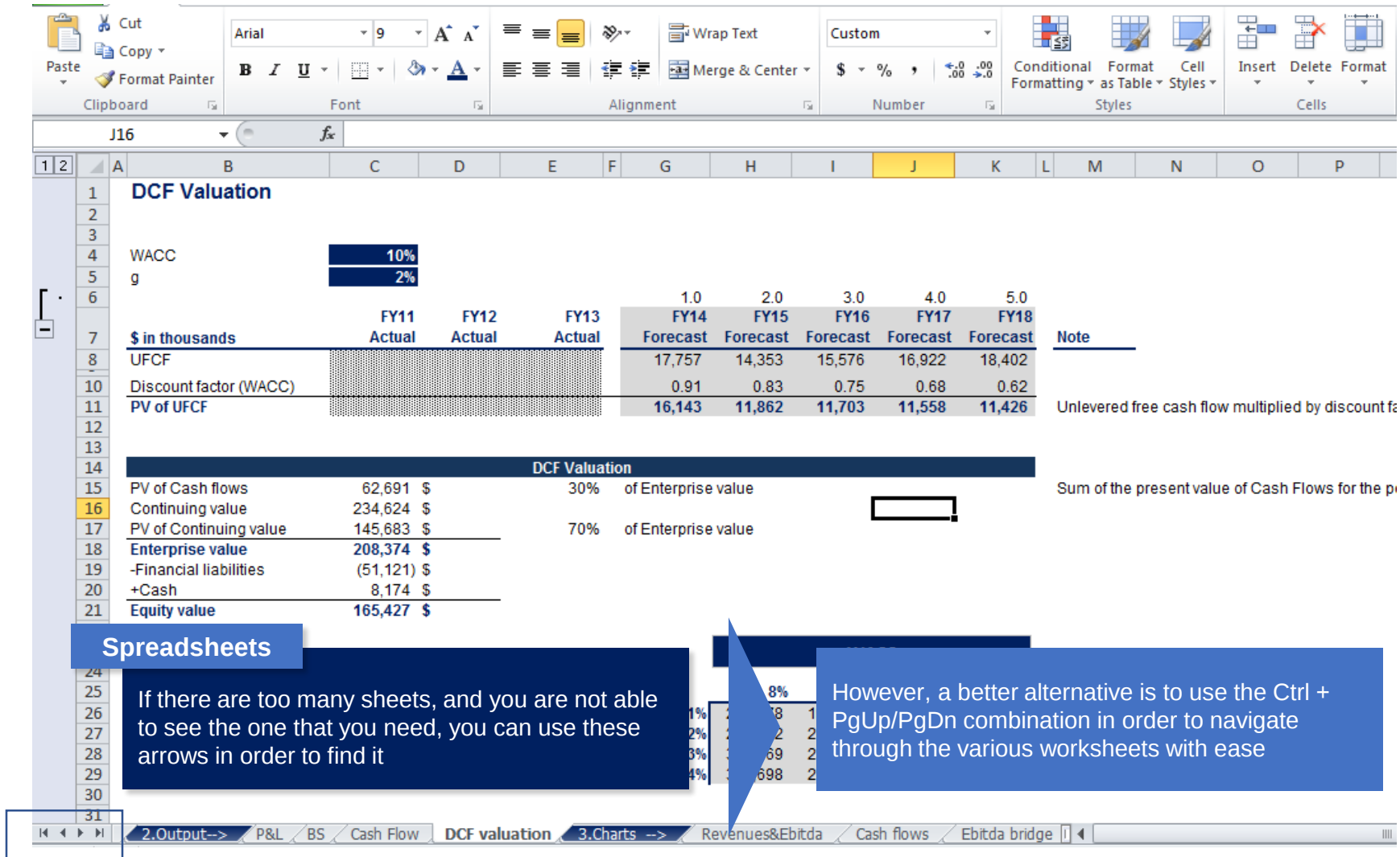


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Spreadsheets

An Excel file can have many spreadsheets. We can find them here

	4%	12%	14%
	391,698	155,453	130,964
	260,744	166,085	137,948
		179,079	146,202
		195,322	156,107



DCF Valuation

	FY11	FY12	FY13	1.0 FY14	2.0 FY15	3.0 FY16	4.0 FY17	5.0 FY18	Note
WACC	10%								
g	2%								
\$ in thousands	Actual	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	
UCF				17,757	14,353	15,576	16,922	18,402	
Discount factor (WACC)				0.91	0.83	0.75	0.68	0.62	
PV of UCF				16,143	11,862	11,703	11,558	11,426	Unlevered free cash flow multiplied by discount factor

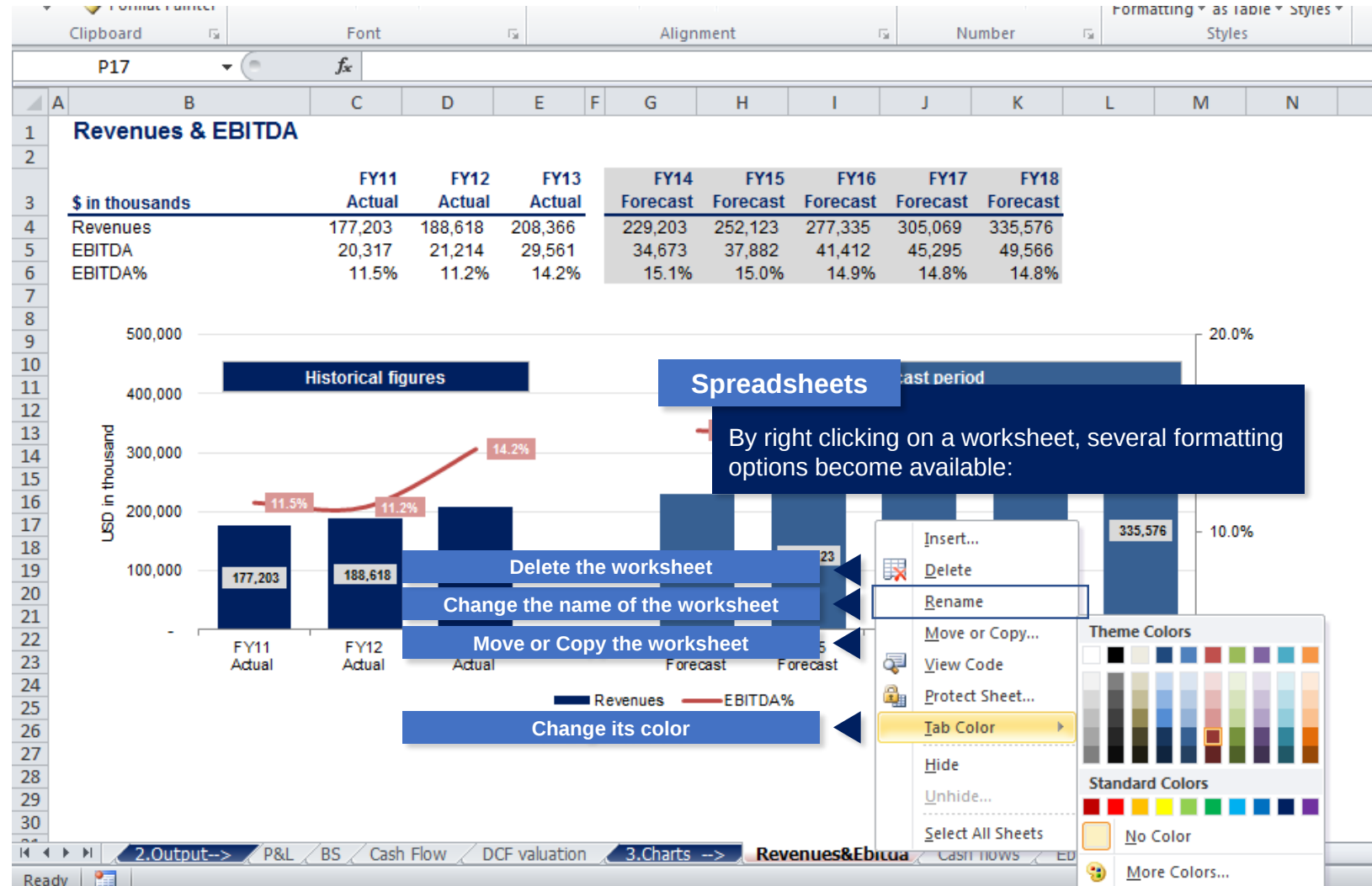
DCF Valuation			
PV of Cash flows	62,691	\$	30% of Enterprise value
Continuing value	234,624	\$	
PV of Continuing value	145,683	\$	70% of Enterprise value
Enterprise value	208,374	\$	
-Financial liabilities	(51,121)	\$	
+Cash	8,174	\$	
Equity value	165,427	\$	

Spreadsheets

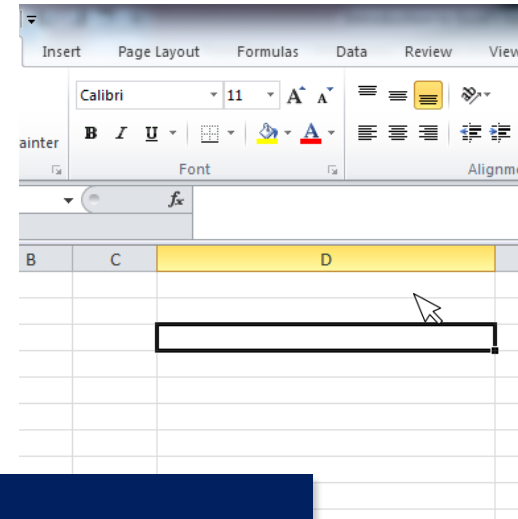
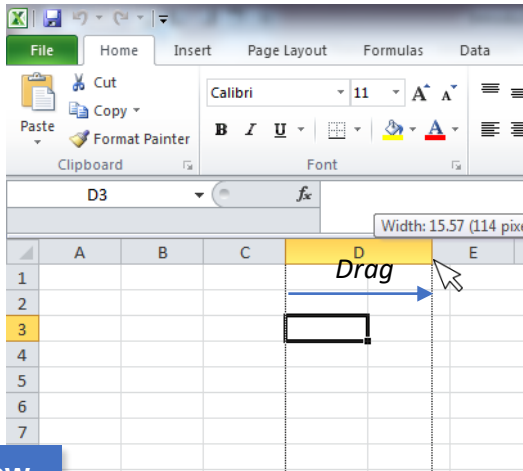
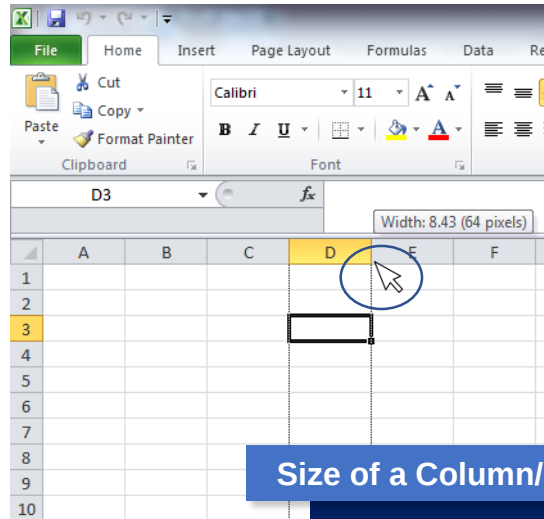
If there are too many sheets, and you are not able to see the one that you need, you can use these arrows in order to find it

However, a better alternative is to use the Ctrl + PgUp/PgDn combination in order to navigate through the various worksheets with ease

Worksheet tabs: 2.Output--> P&L BS Cash Flow **DCF valuation** 3.Charts --> Revenues&Ebitda Cash flows Ebitda bridge

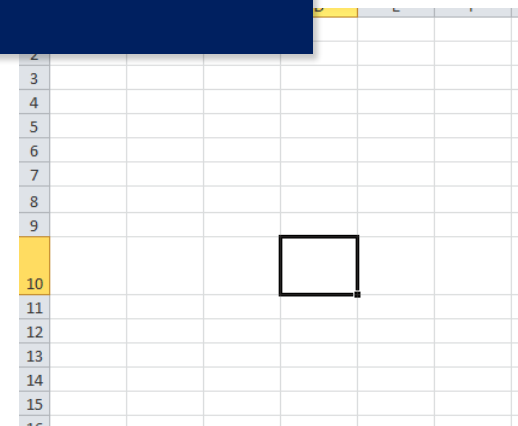
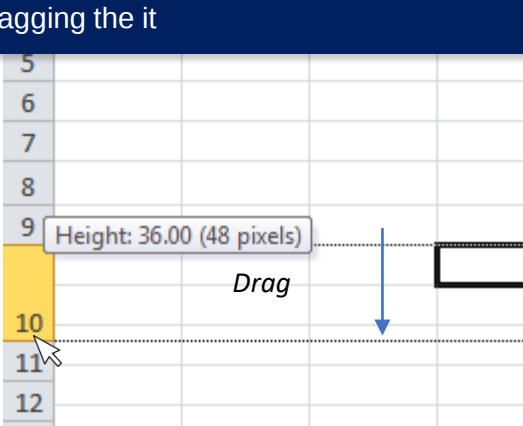
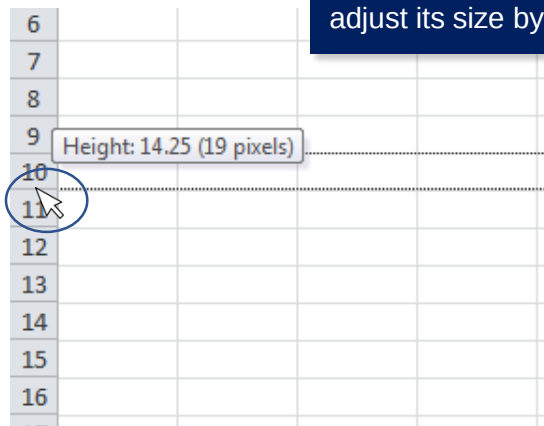


Adjusting the size of a column/row manually



Size of a Column/Row

In order to adjust the size of a column (or a row) manually, click with the left button of the mouse at the beginning of the column (row) as shown above (below). You can adjust its size by dragging the it



Adjusting the size of a column automatically

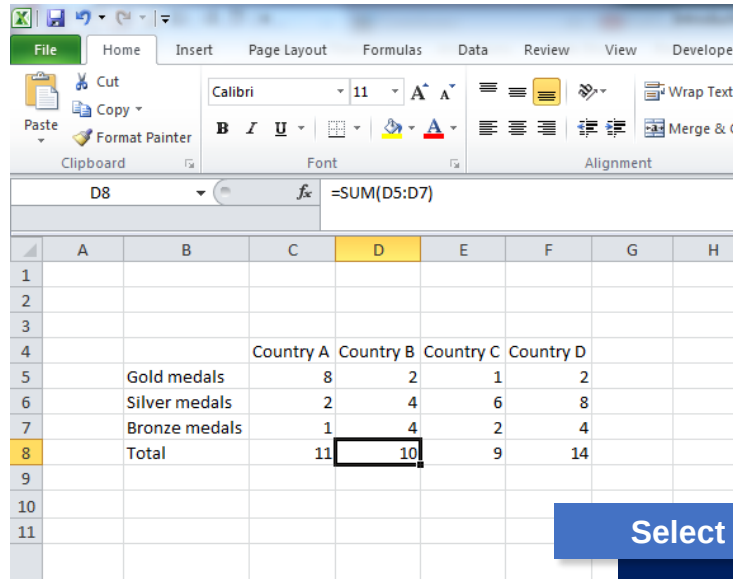
The first screenshot shows an Excel spreadsheet with a table of medal counts. Column C is highlighted in yellow. A text box at the bottom says: "If the content of some of the cells within a column does not fit its size (as shown above), you can do the following:"

The second screenshot shows a double-click action on the left border of column C. A tooltip indicates "Width: 8.57 (65 pixels)". A text box at the bottom says: "Double click with the left button of the mouse and adjust the column's size"

The third screenshot shows the column C automatically resized to fit the content. A text box at the bottom says: "The column would automatically fit the cells' size"

	A	B	C	D	E	F
1						
2						
3						
4			Country A	Country B	Country C	Country D
5		Gold med	8	2	1	2
6		Silver med	2	4	6	8
7		Bronze me	1	4	2	4
8		Total	11	10	9	14
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

Selecting a row/column with the keyboard

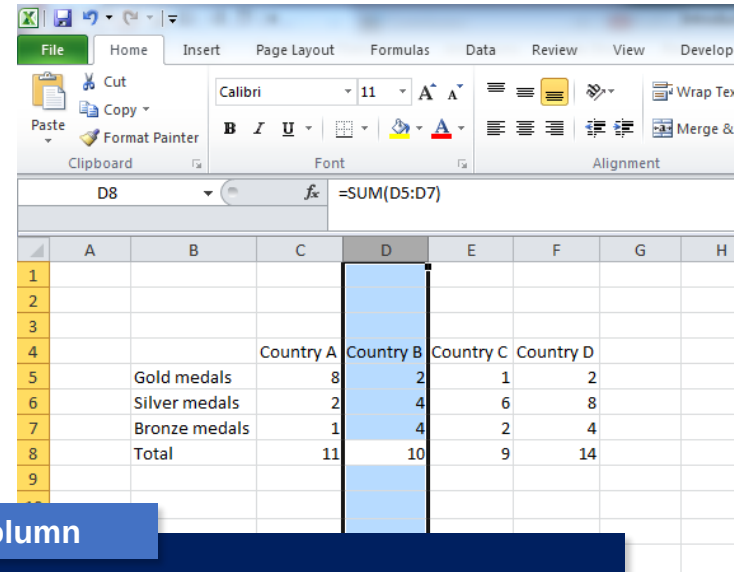


A screenshot of the Microsoft Excel interface. The ribbon shows 'File', 'Home', 'Insert', 'Page Layout', 'Formulas', 'Data', 'Review', 'View', and 'Developer'. The 'Home' tab is active, showing 'Clipboard', 'Font', and 'Alignment' groups. The formula bar shows 'D8' and '=SUM(D5:D7)'. The spreadsheet grid shows columns A through H and rows 1 through 11. Column D is highlighted in yellow, indicating it is selected. The data in the grid is as follows:

	A	B	C	D	E	F	G	H
1								
2								
3								
4			Country A	Country B	Country C	Country D		
5		Gold medals	8	2	1	2		
6		Silver medals	2	4	6	8		
7		Bronze medals	1	4	2	4		
8		Total	11	10	9	14		
9								
10								
11								

Select a column

The shortcut for selecting a column is Ctrl + Space

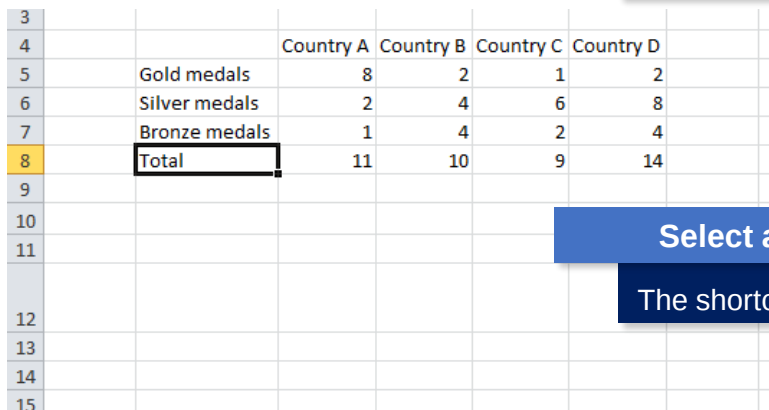


A screenshot of the Microsoft Excel interface, similar to the one above. The ribbon and formula bar are the same. The spreadsheet grid shows columns A through H and rows 1 through 11. Row 8 is highlighted in yellow, indicating it is selected. The data in the grid is the same as in the previous screenshot.

	A	B	C	D	E	F	G	H
1								
2								
3								
4			Country A	Country B	Country C	Country D		
5		Gold medals	8	2	1	2		
6		Silver medals	2	4	6	8		
7		Bronze medals	1	4	2	4		
8		Total	11	10	9	14		
9								
10								
11								

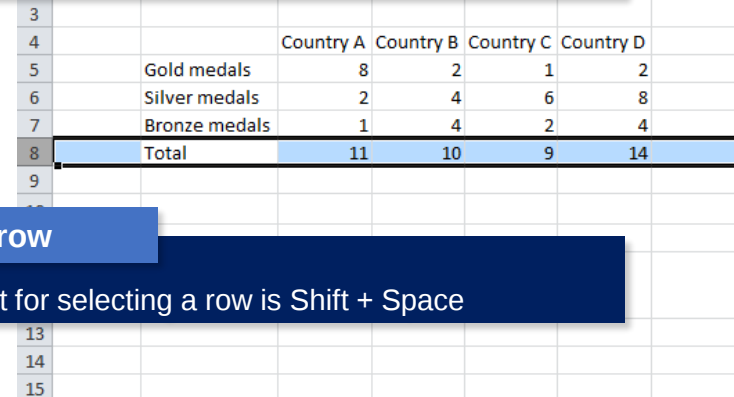
Select a row

The shortcut for selecting a row is Shift + Space



A screenshot of the Microsoft Excel interface showing the same data as the previous screenshots. Row 8 is highlighted in yellow, indicating it is selected.

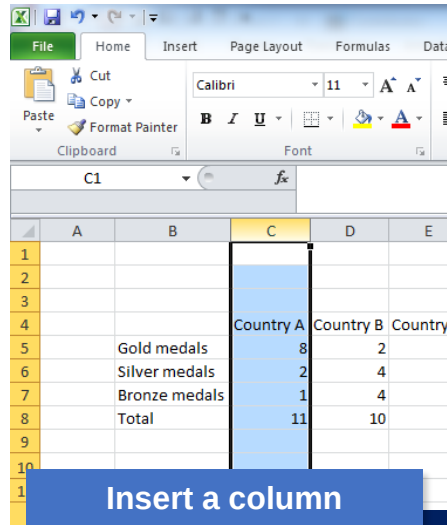
	A	B	C	D	E	F	G	H
3								
4			Country A	Country B	Country C	Country D		
5		Gold medals	8	2	1	2		
6		Silver medals	2	4	6	8		
7		Bronze medals	1	4	2	4		
8		Total	11	10	9	14		
9								
10								
11								



A screenshot of the Microsoft Excel interface showing the same data as the previous screenshots. Row 8 is highlighted in yellow, indicating it is selected.

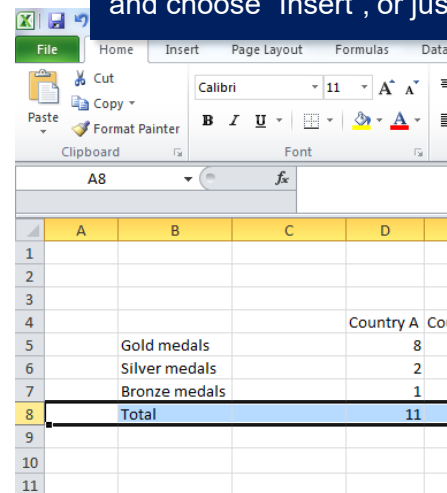
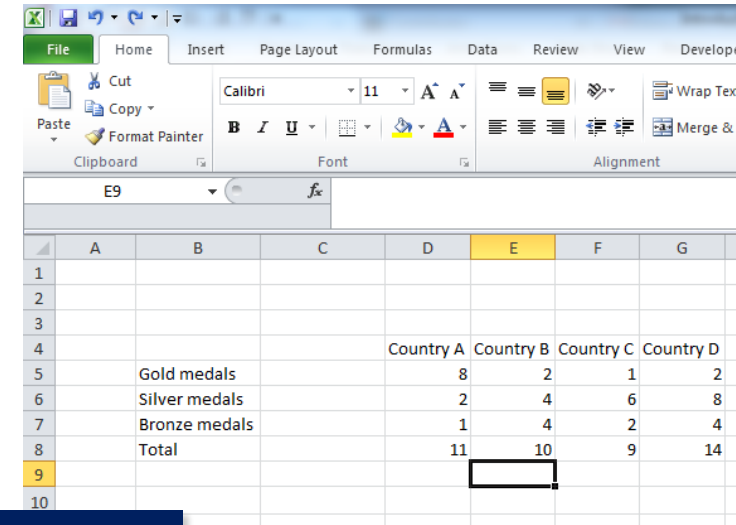
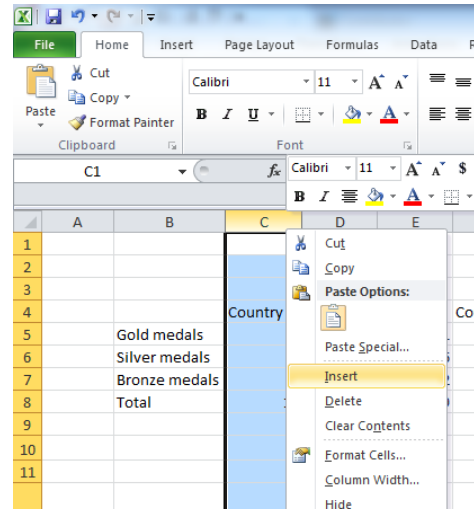
	A	B	C	D	E	F	G	H
3								
4			Country A	Country B	Country C	Country D		
5		Gold medals	8	2	1	2		
6		Silver medals	2	4	6	8		
7		Bronze medals	1	4	2	4		
8		Total	11	10	9	14		
9								
10								
11								
12								
13								
14								
15								

Inserting a row/column



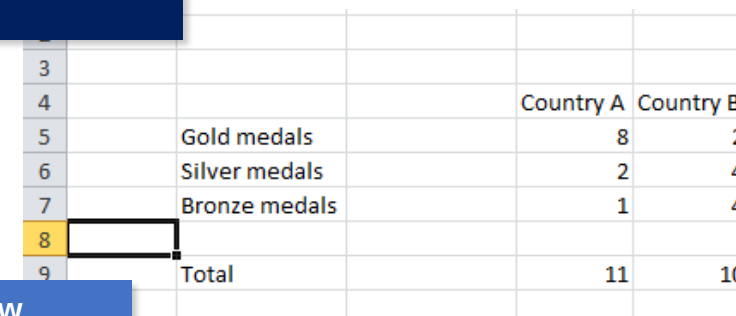
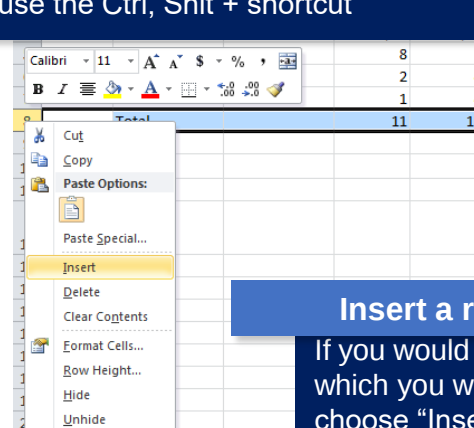
Insert a column

If you would like to insert an empty column to your sheet, select the column before which you would like to insert a new column, right click with the mouse and choose "Insert", or just use the Ctrl, Shift + shortcut



Insert a row

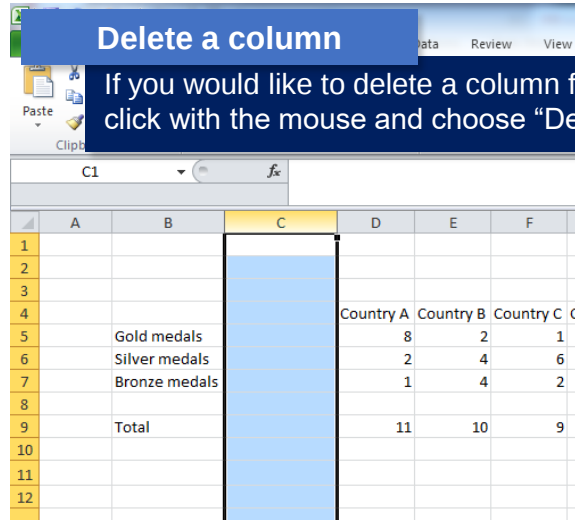
If you would like to insert an empty row to your sheet, select the row before which you would like to insert a new row, right click with the mouse and choose "Insert", or just use the Ctrl, Shift + shortcut



Deleting a row/column

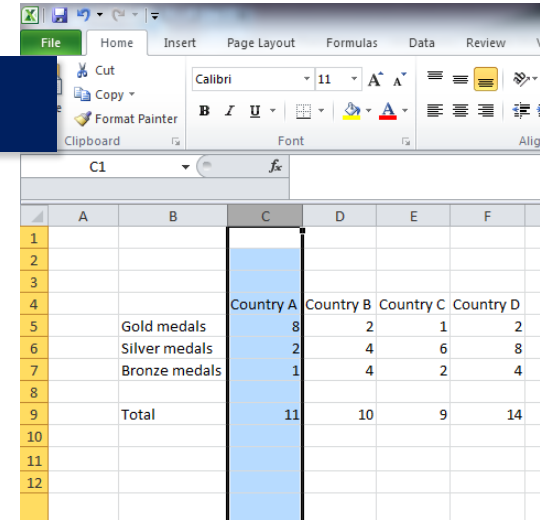
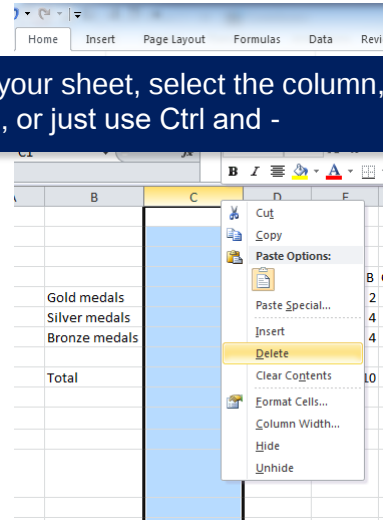
Delete a column

If you would like to delete a column from your sheet, select the column, right click with the mouse and choose "Delete", or just use Ctrl and -



A screenshot of an Excel spreadsheet with columns A through F and rows 1 through 12. Column C is highlighted in blue, indicating it is selected. The data in the spreadsheet is as follows:

	A	B	C	D	E	F
1						
2						
3						
4				Country A	Country B	Country C
5		Gold medals		8	2	1
6		Silver medals		2	4	6
7		Bronze medals		1	4	2
8						
9		Total		11	10	9
10						
11						
12						

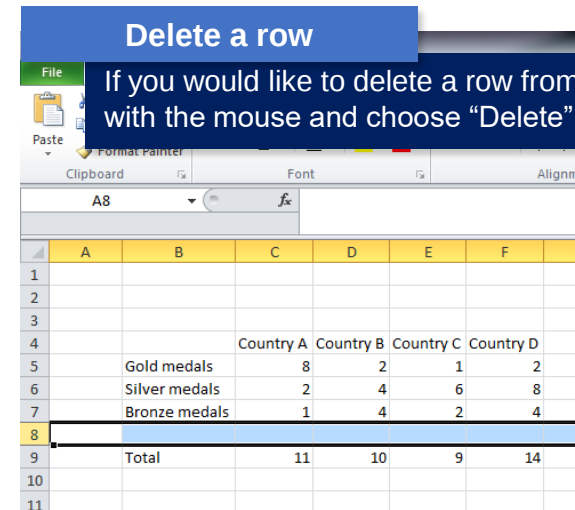


A screenshot of the same Excel spreadsheet after column C has been deleted. The columns are now A, B, D, E, and F. The data is as follows:

	A	B	D	E	F
1					
2					
3					
4			Country A	Country B	Country C
5		Gold medals	8	2	1
6		Silver medals	2	4	6
7		Bronze medals	1	4	2
8					
9		Total	11	10	9
10					
11					
12					

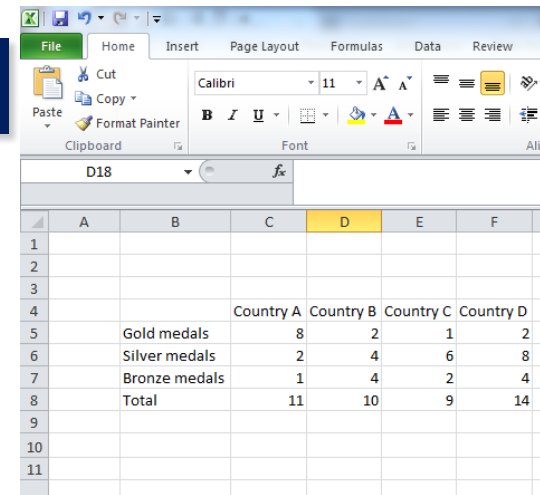
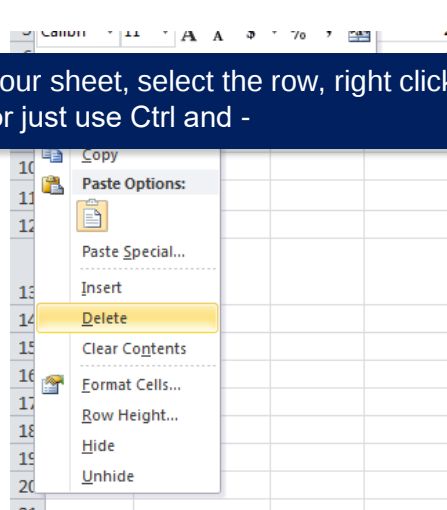
Delete a row

If you would like to delete a row from your sheet, select the row, right click with the mouse and choose "Delete", or just use Ctrl and -



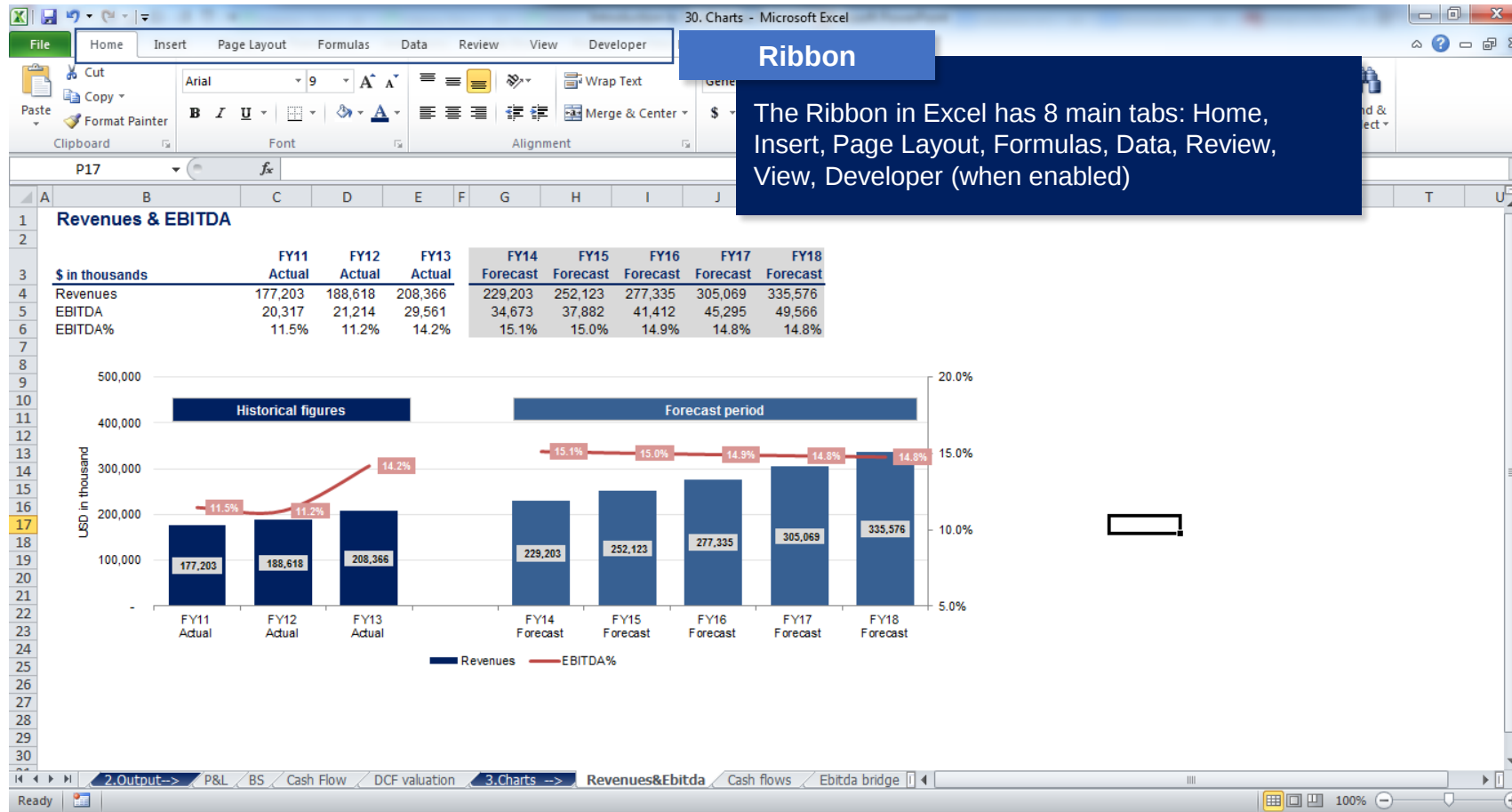
A screenshot of the same Excel spreadsheet as in the first section. Row 8 is highlighted in blue, indicating it is selected. The data in the spreadsheet is as follows:

	A	B	C	D	E	F
1						
2						
3						
4			Country A	Country B	Country C	Country D
5		Gold medals	8	2	1	2
6		Silver medals	2	4	6	8
7		Bronze medals	1	4	2	4
8						
9		Total	11	10	9	14
10						
11						



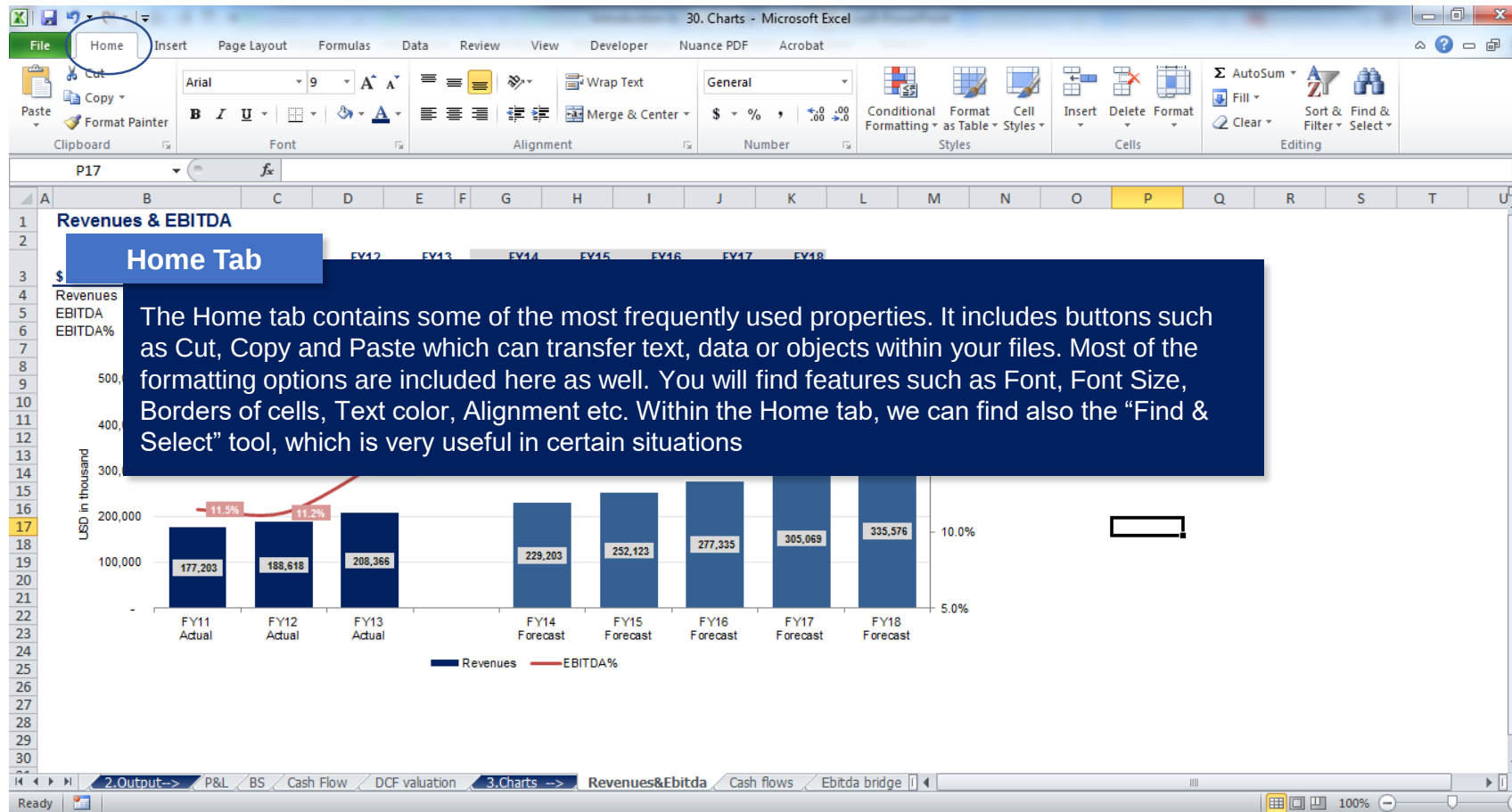
A screenshot of the same Excel spreadsheet after row 8 has been deleted. The rows are now 1 through 11. The data is as follows:

	A	B	C	D	E	F
1						
2						
3						
4			Country A	Country B	Country C	Country D
5		Gold medals	8	2	1	2
6		Silver medals	2	4	6	8
7		Bronze medals	1	4	2	4
8		Total	11	10	9	14
9						
10						
11						

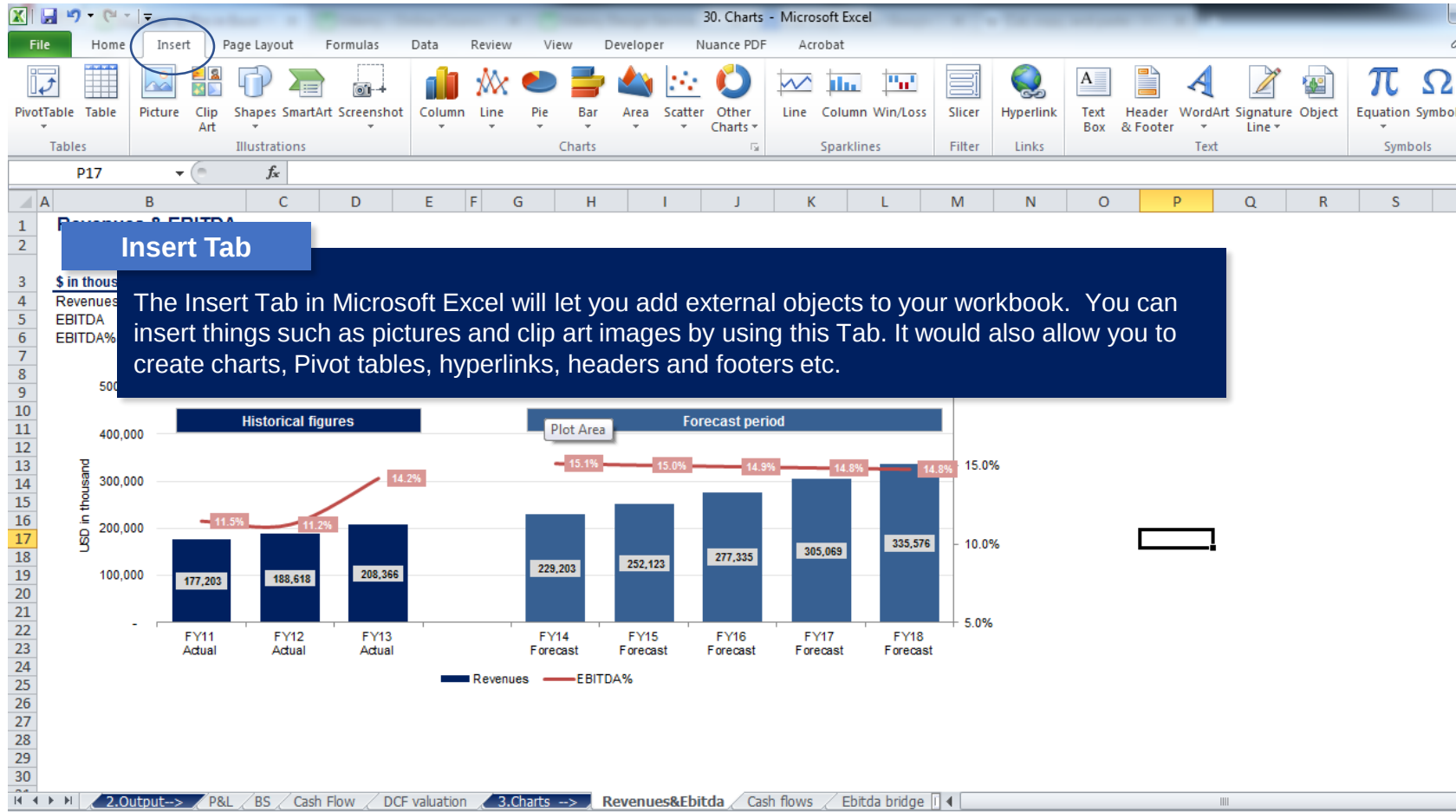


Explore the Ribbon Tabs: Home

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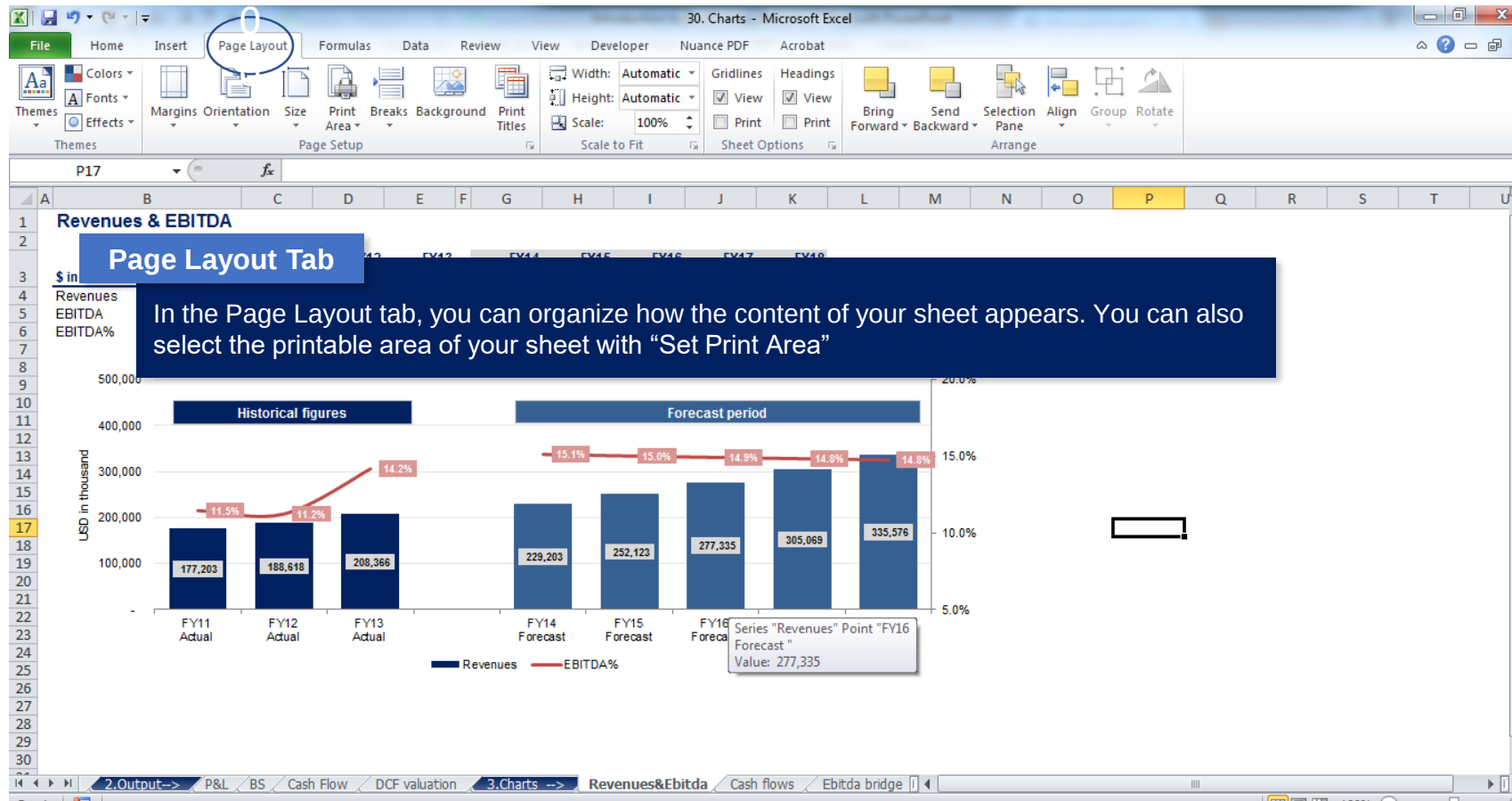


Explore the Ribbon Tabs: Insert

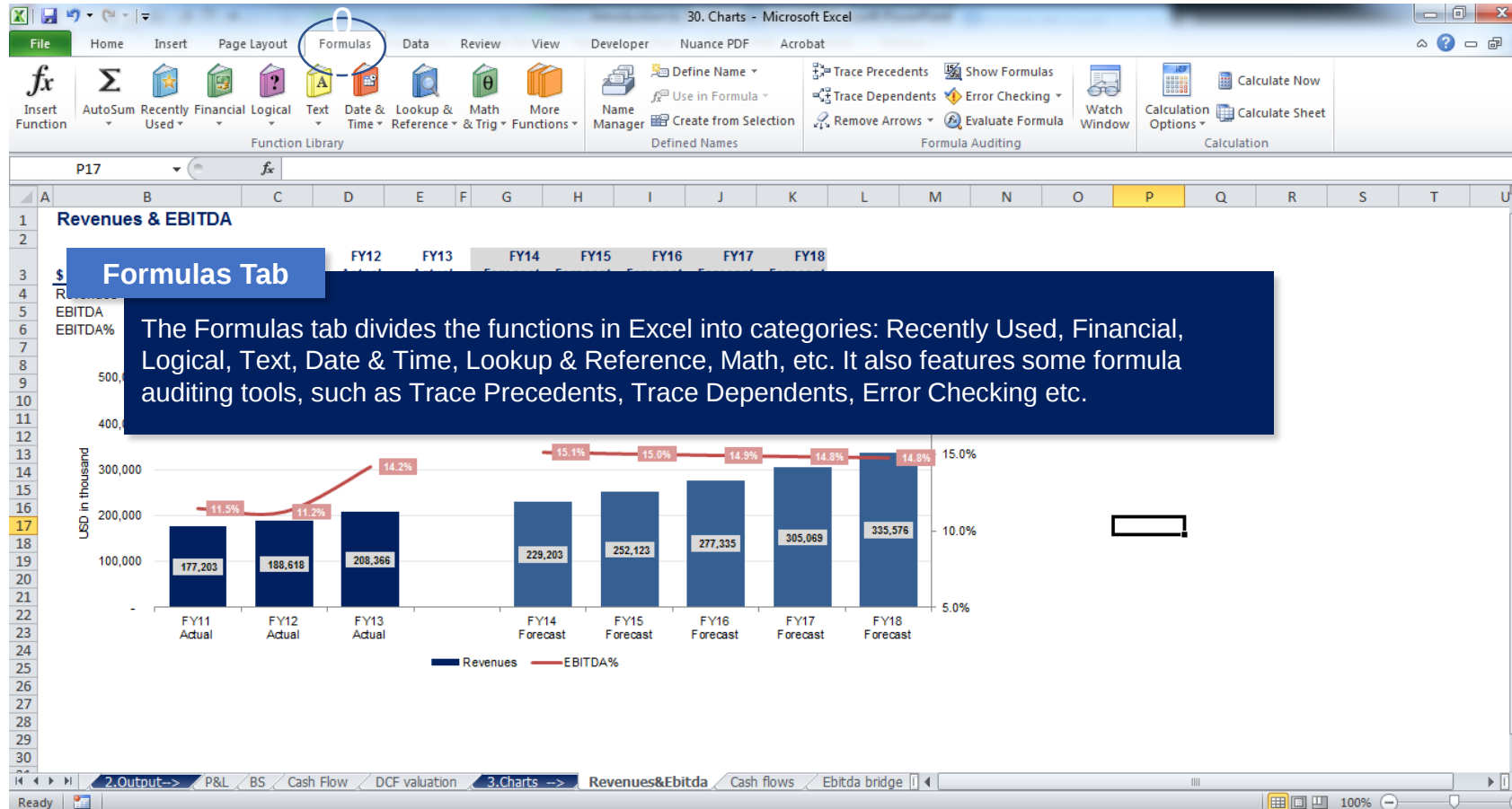


Explore the Ribbon Tabs: Page Layout

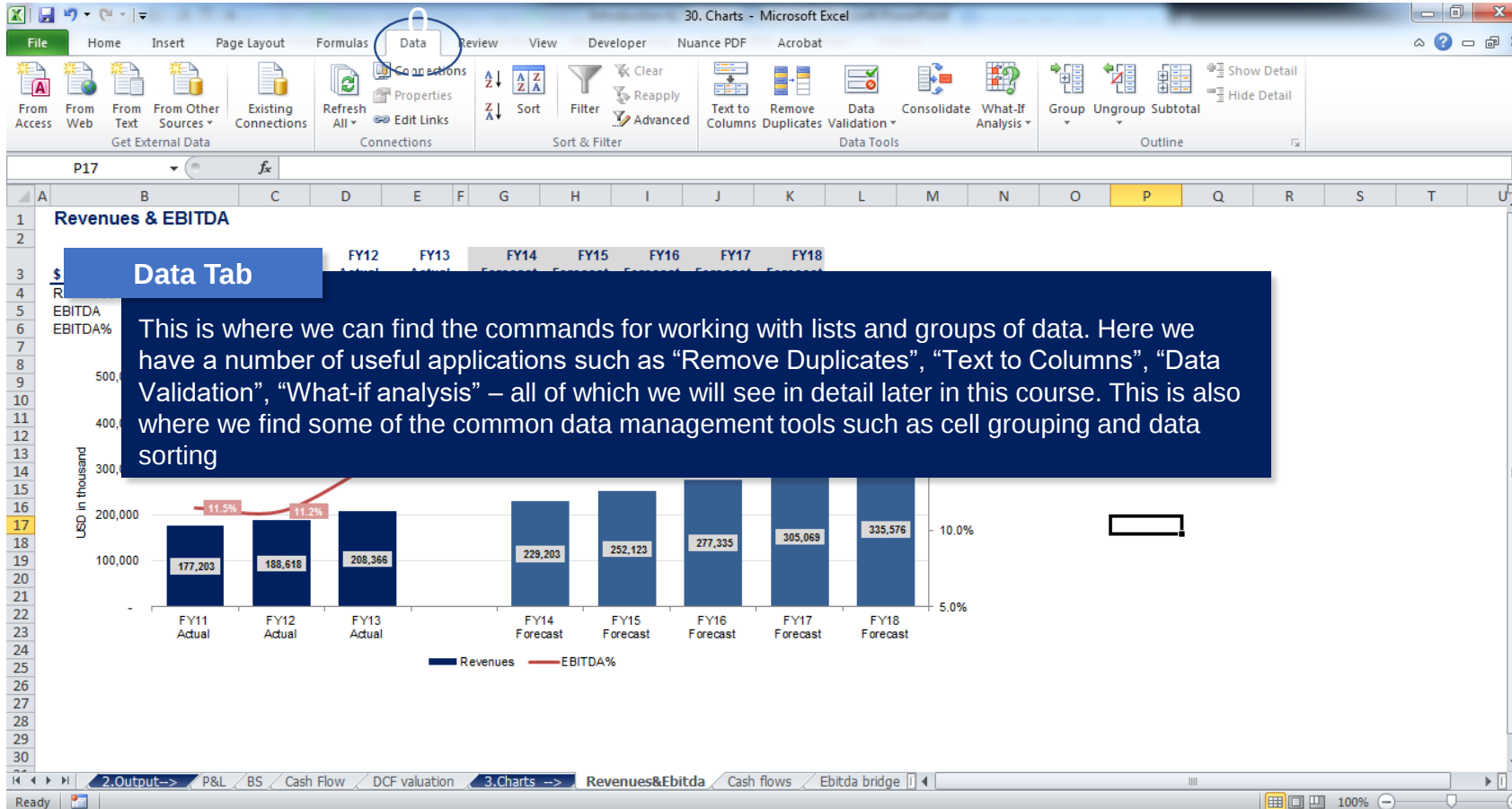
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Explore the Ribbon Tabs: Formulas



Explore the Ribbon Tabs: Data



Data Tab

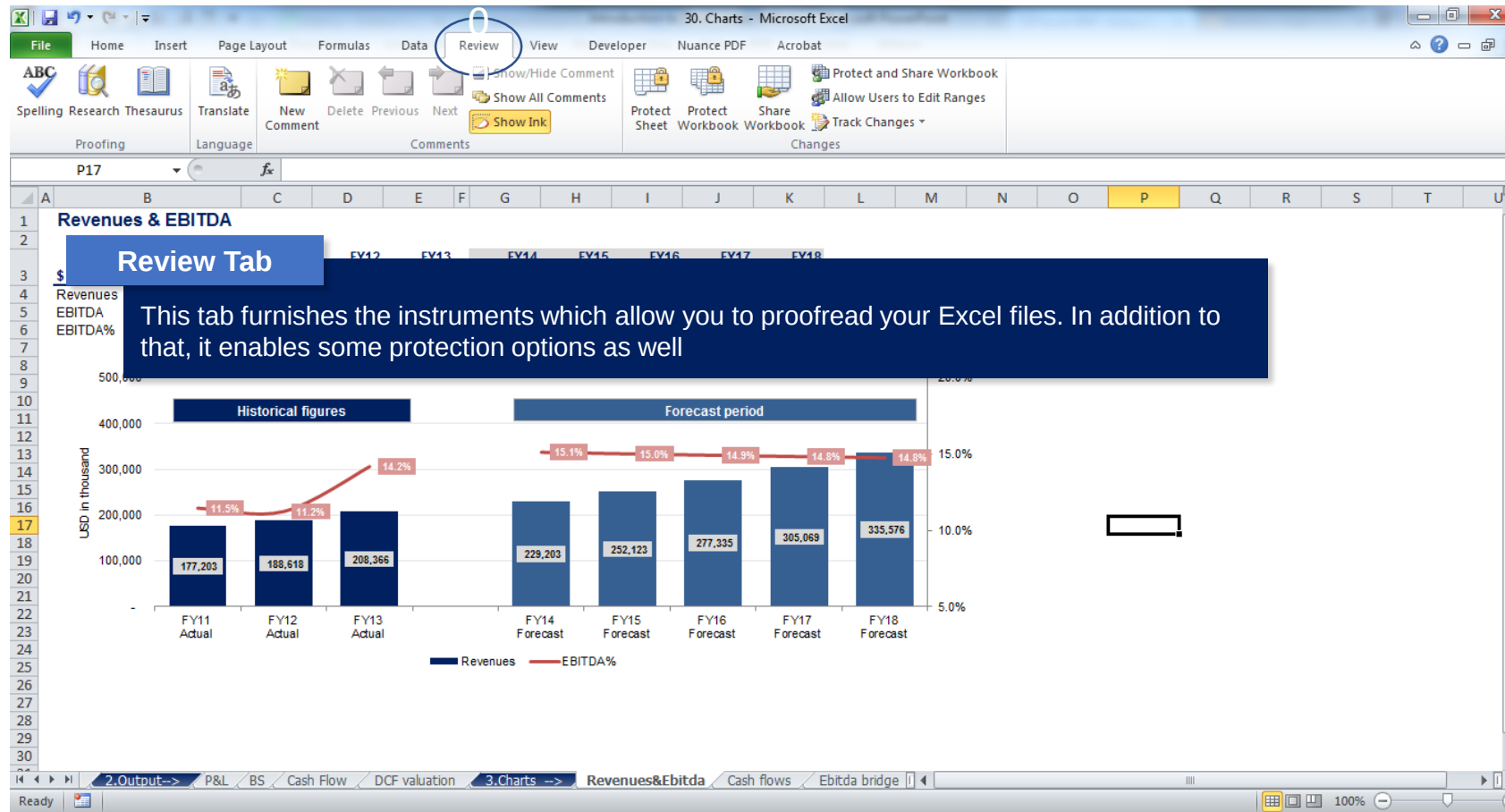
This is where we can find the commands for working with lists and groups of data. Here we have a number of useful applications such as “Remove Duplicates”, “Text to Columns”, “Data Validation”, “What-if analysis” – all of which we will see in detail later in this course. This is also where we find some of the common data management tools such as cell grouping and data sorting

Revenues & EBITDA

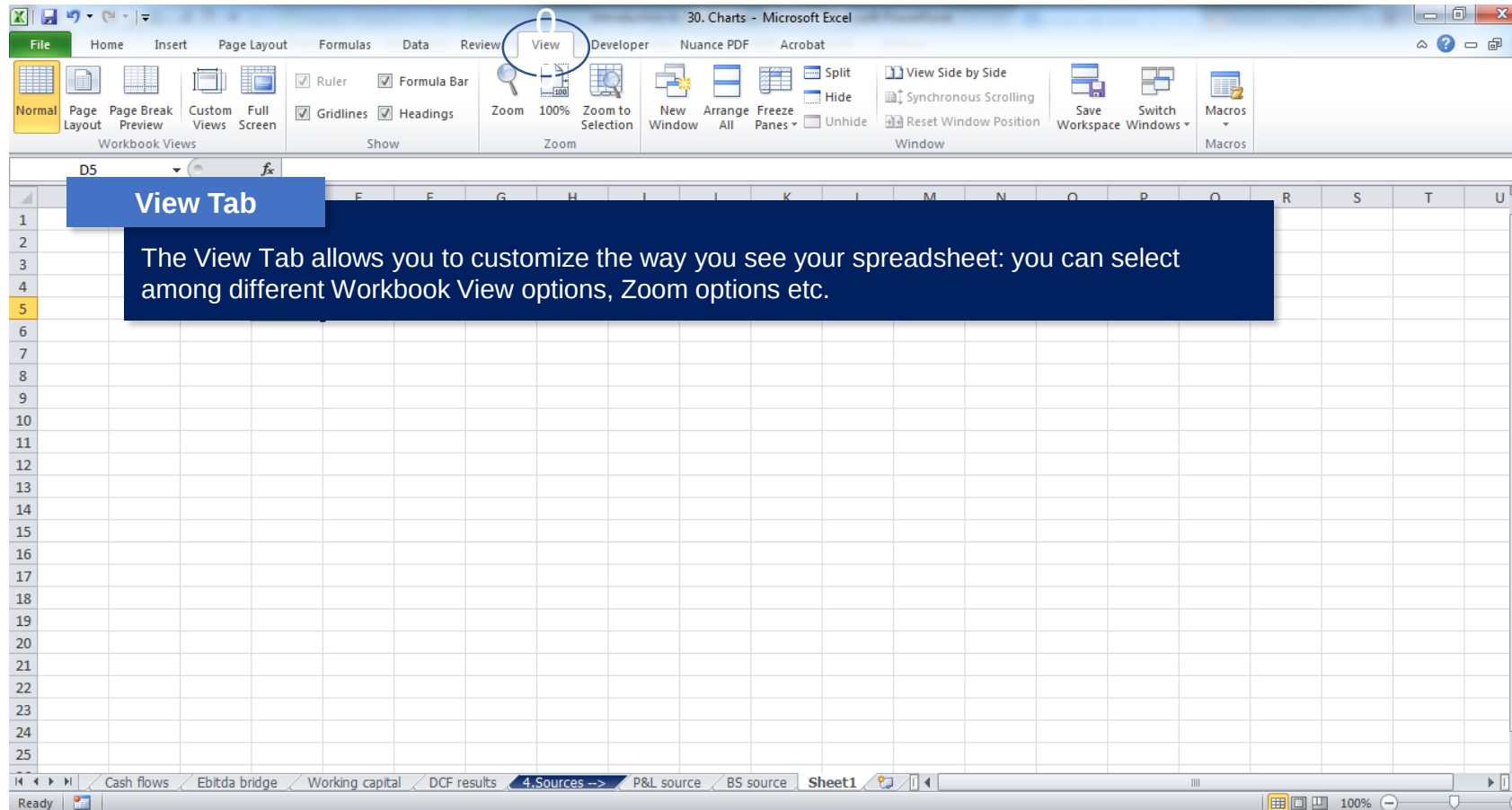
	FY12	FY13	FY14	FY15	FY16	FY17	FY18	
Revenues	177,203	188,618	208,366	229,203	252,123	277,335	305,069	335,576
EBITDA%	11.5%	11.2%						

Legend: Revenues (Blue bars), EBITDA% (Red line)

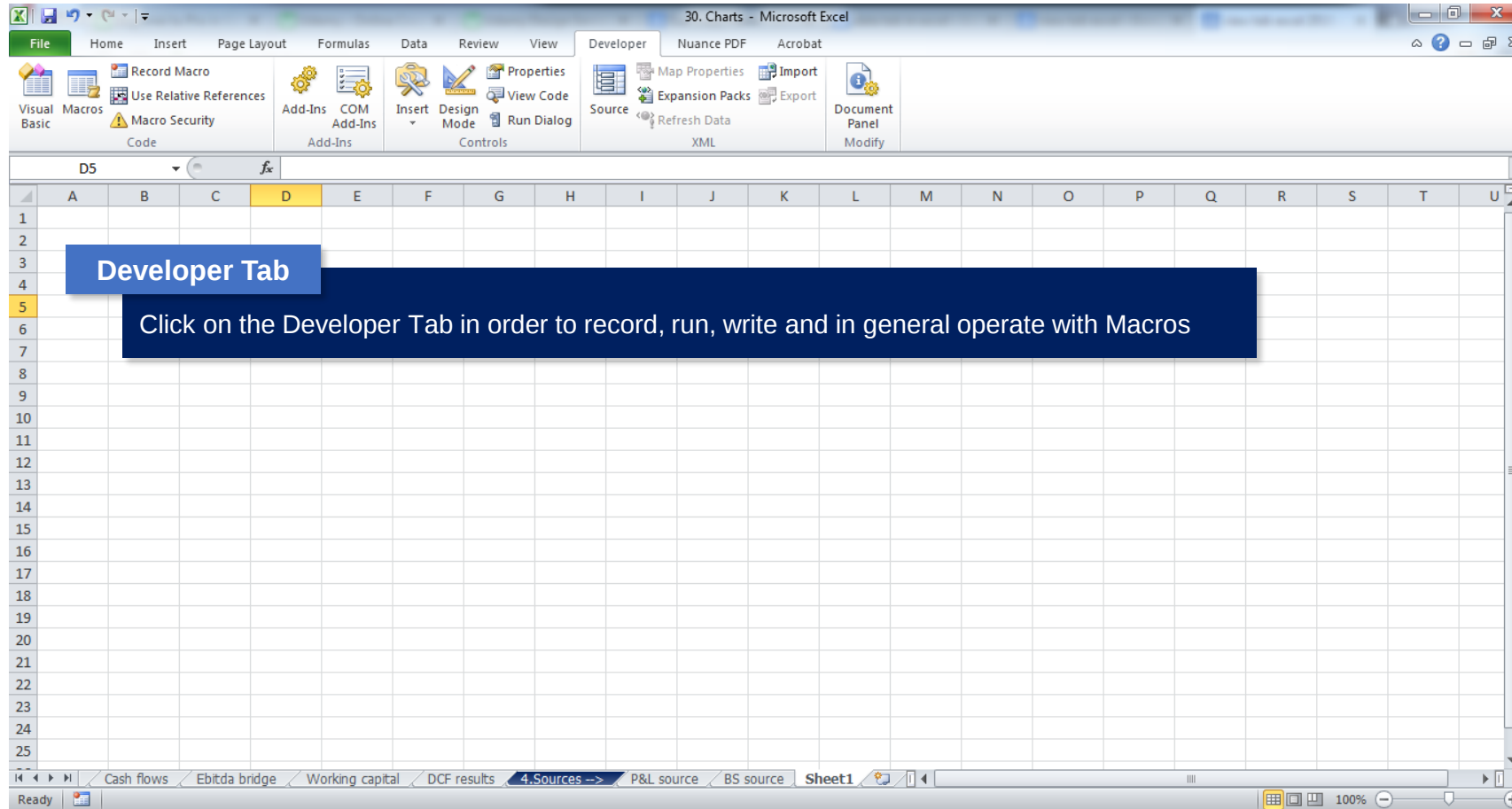
Explore the Ribbon Tabs: Review



Explore the Ribbon Tabs: View



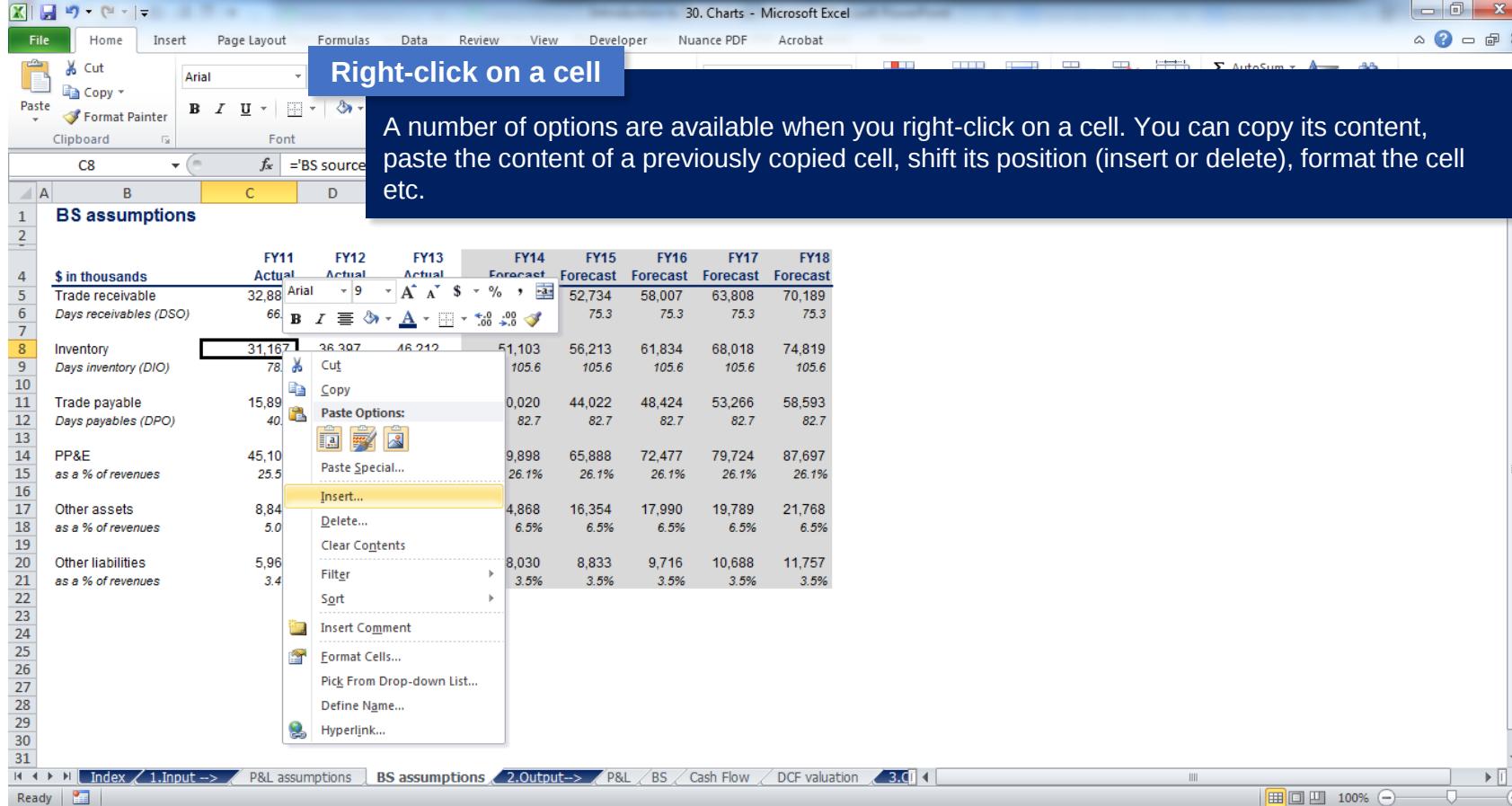
Explore the Ribbon Tabs: Developer



Right-click on a cell

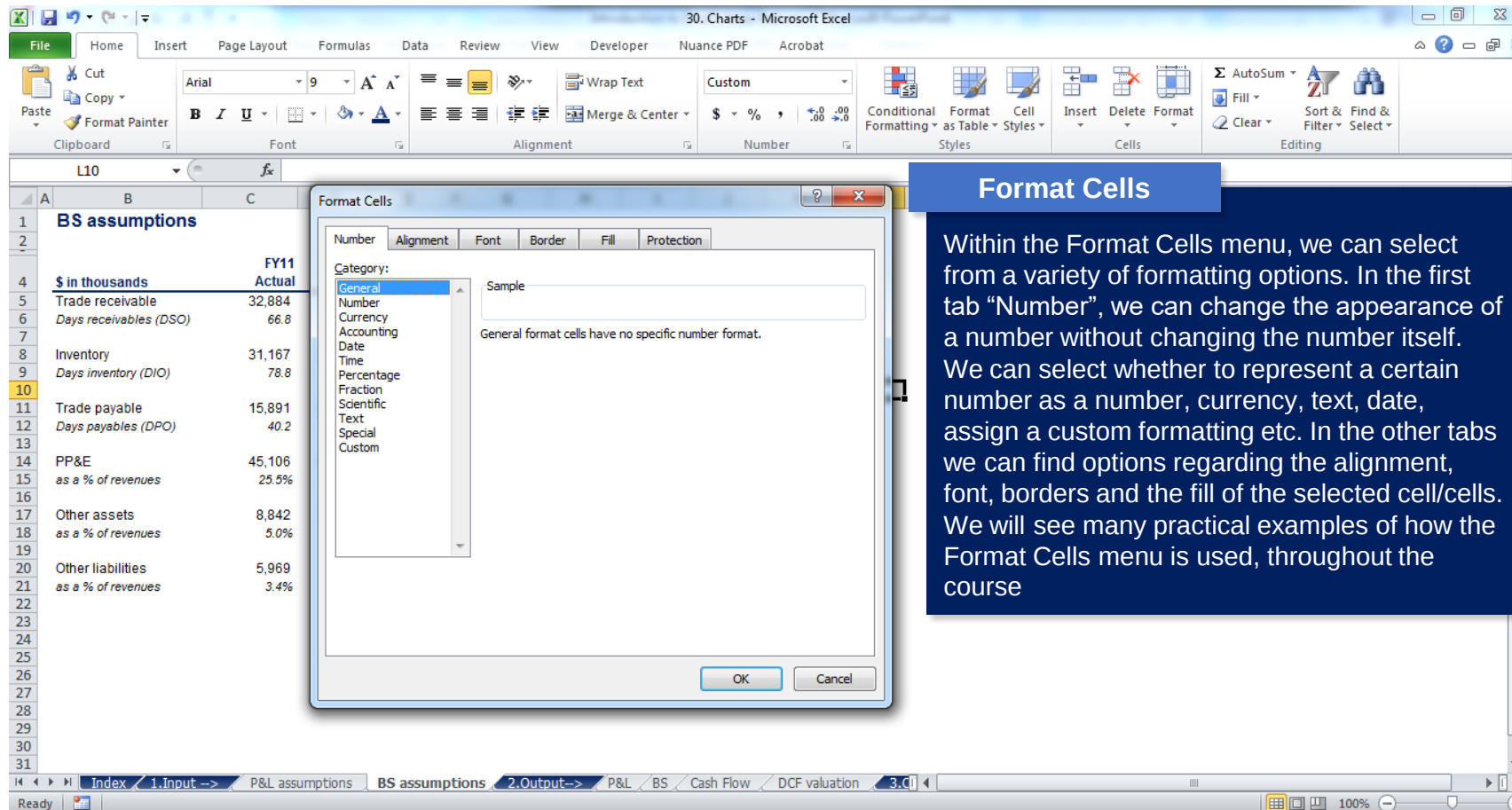
Right-click on a cell

A number of options are available when you right-click on a cell. You can copy its content, paste the content of a previously copied cell, shift its position (insert or delete), format the cell etc.



The screenshot shows the Microsoft Excel interface with a financial model. A right-click context menu is open over cell C8, which contains the value 31,167. The menu options include Cut, Copy, Paste Options (with sub-options like Paste, Paste Special, and Insert...), Delete..., Clear Contents, Filter, Sort, Insert Comment, Format Cells..., Pick From Drop-down List..., Define Name..., and Hyperlink... The background spreadsheet shows a balance sheet (BS assumptions) with columns for FY11 Actual, FY12 Actual, FY13 Actual, FY14 Forecast, FY15 Forecast, FY16 Forecast, FY17 Forecast, and FY18 Forecast. The rows include Trade receivable, Days receivables (DSO), Inventory, Days inventory (DIO), Trade payable, Days payables (DPO), PP&E as a % of revenues, Other assets as a % of revenues, and Other liabilities as a % of revenues.

	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
Trade receivable	32,88			52,734	58,007	63,808	70,189	
Days receivables (DSO)	66			75.3	75.3	75.3	75.3	
Inventory	31,167	36,307	46,212	51,103	56,213	61,834	68,018	74,819
Days inventory (DIO)	78			105.6	105.6	105.6	105.6	105.6
Trade payable	15,89			0,020	44,022	48,424	53,266	58,593
Days payables (DPO)	40			82.7	82.7	82.7	82.7	82.7
PP&E	45,10			9,898	65,888	72,477	79,724	87,697
as a % of revenues	25.5			26.1%	26.1%	26.1%	26.1%	26.1%
Other assets	8,84			4,868	16,354	17,990	19,789	21,768
as a % of revenues	5.0			6.5%	6.5%	6.5%	6.5%	6.5%
Other liabilities	5,96			8,030	8,833	9,716	10,688	11,757
as a % of revenues	3.4			3.5%	3.5%	3.5%	3.5%	3.5%

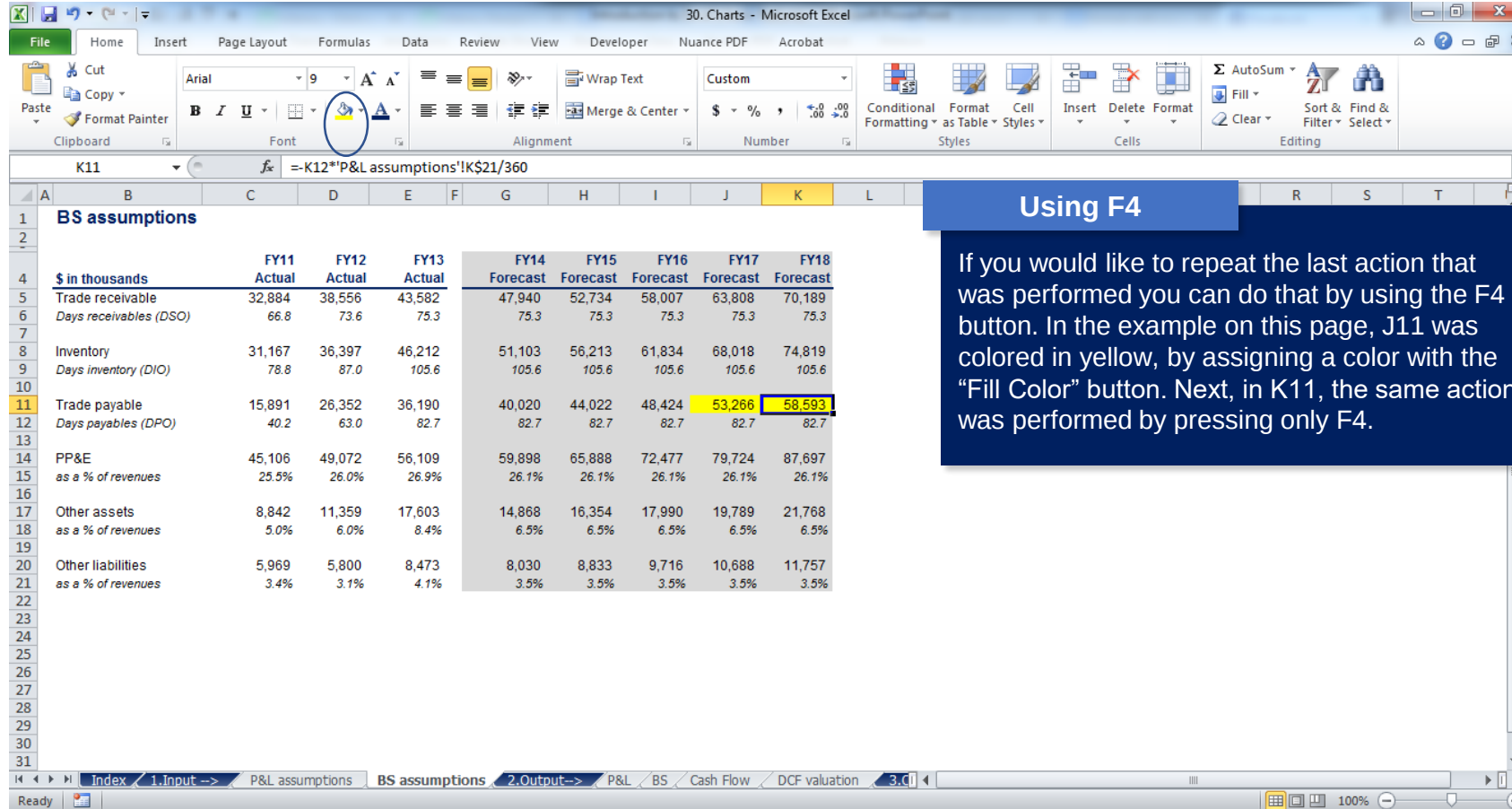


The screenshot shows the Microsoft Excel interface with the 'Format Cells' dialog box open. The dialog box has tabs for Number, Alignment, Font, Border, Fill, and Protection. The 'Number' tab is selected, showing a list of categories on the left and a 'Sample' area on the right. The categories listed are: General, Number, Currency, Accounting, Date, Time, Percentage, Fraction, Scientific, Text, Special, and Custom. The 'Sample' area displays 'General format cells have no specific number format.'.

Within the Format Cells menu, we can select from a variety of formatting options. In the first tab "Number", we can change the appearance of a number without changing the number itself. We can select whether to represent a certain number as a number, currency, text, date, assign a custom formatting etc. In the other tabs we can find options regarding the alignment, font, borders and the fill of the selected cell/cells. We will see many practical examples of how the Format Cells menu is used, throughout the course

		FY11
	\$ in thousands	Actual
Trade receivable		32,884
Days receivables (DSO)		66.8
Inventory		31,167
Days inventory (DIO)		78.8
Trade payable		15,891
Days payables (DPO)		40.2
PP&E		45,106
as a % of revenues		25.5%
Other assets		8,842
as a % of revenues		5.0%
Other liabilities		5,969
as a % of revenues		3.4%

Repeat the last action (F4)



Using F4

If you would like to repeat the last action that was performed you can do that by using the F4 button. In the example on this page, J11 was colored in yellow, by assigning a color with the "Fill Color" button. Next, in K11, the same action was performed by pressing only F4.

	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Forecast	FY15 Forecast	FY16 Forecast	FY17 Forecast	FY18 Forecast
Trade receivable	32,884	38,556	43,582	47,940	52,734	58,007	63,808	70,189
Days receivables (DSO)	66.8	73.6	75.3	75.3	75.3	75.3	75.3	75.3
Inventory	31,167	36,397	46,212	51,103	56,213	61,834	68,018	74,819
Days inventory (DIO)	78.8	87.0	105.6	105.6	105.6	105.6	105.6	105.6
Trade payable	15,891	26,352	36,190	40,020	44,022	48,424	53,266	58,593
Days payables (DPO)	40.2	63.0	82.7	82.7	82.7	82.7	82.7	82.7
PP&E	45,106	49,072	56,109	59,898	65,888	72,477	79,724	87,697
as a % of revenues	25.5%	26.0%	26.9%	26.1%	26.1%	26.1%	26.1%	26.1%
Other assets	8,842	11,359	17,603	14,868	16,354	17,990	19,789	21,768
as a % of revenues	5.0%	6.0%	8.4%	6.5%	6.5%	6.5%	6.5%	6.5%
Other liabilities	5,969	5,800	8,473	8,030	8,833	9,716	10,688	11,757
as a % of revenues	3.4%	3.1%	4.1%	3.5%	3.5%	3.5%	3.5%	3.5%

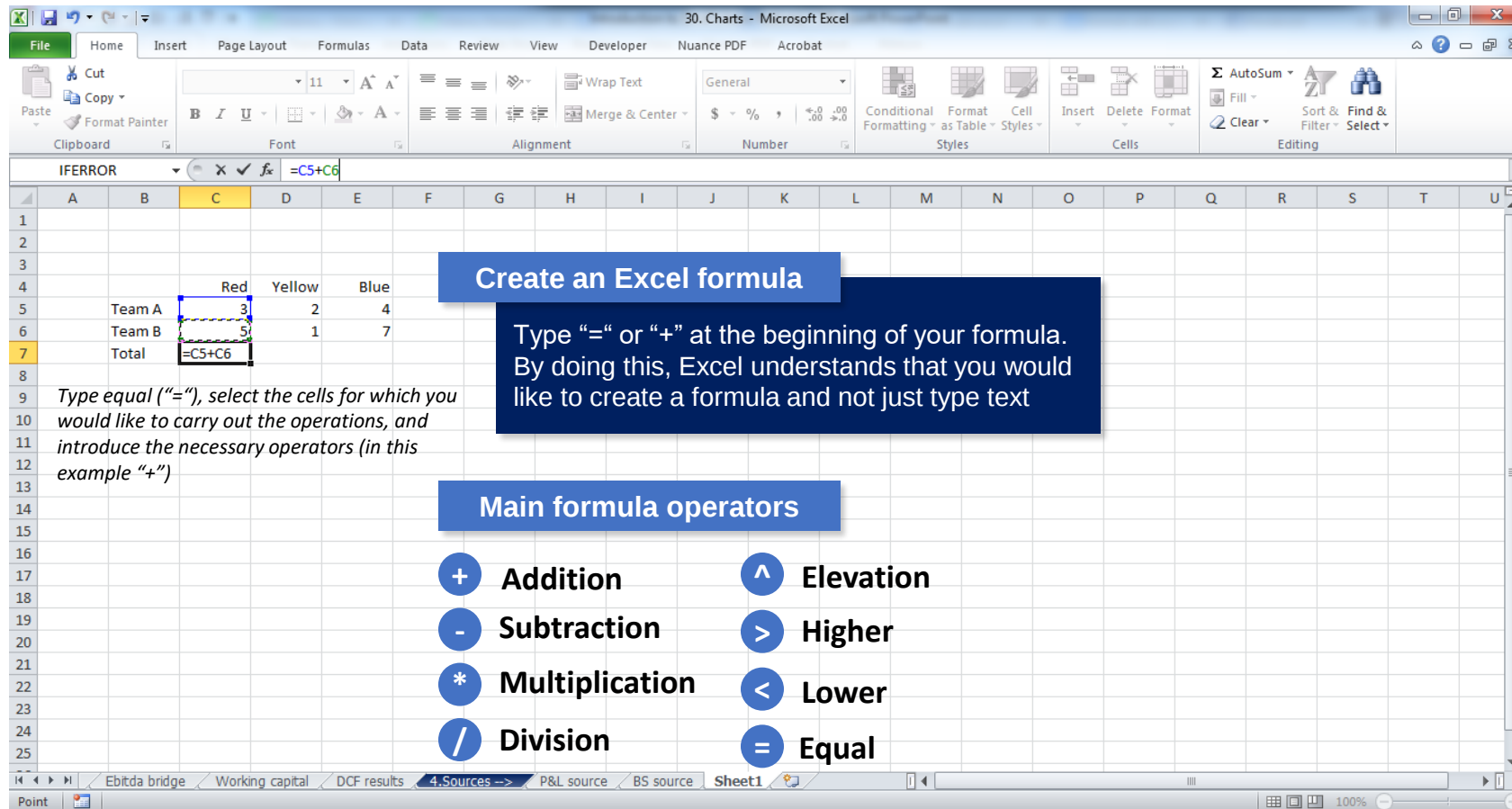
Editing a cell's content

The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula `=C5+C6`. The spreadsheet contains the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3																					
4			Red	Yellow	Blue																
5		Team A	3	2	4																
6		Team B	5	1	7																
7		Total	=C5+C6																		
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					

The callout box states: "Editing with F2. You can edit the content of a cell by selecting it and then clicking F2. Performing such an action would allow you to start typing directly in the Formula Bar".

Creating an Excel formula



Create an Excel formula

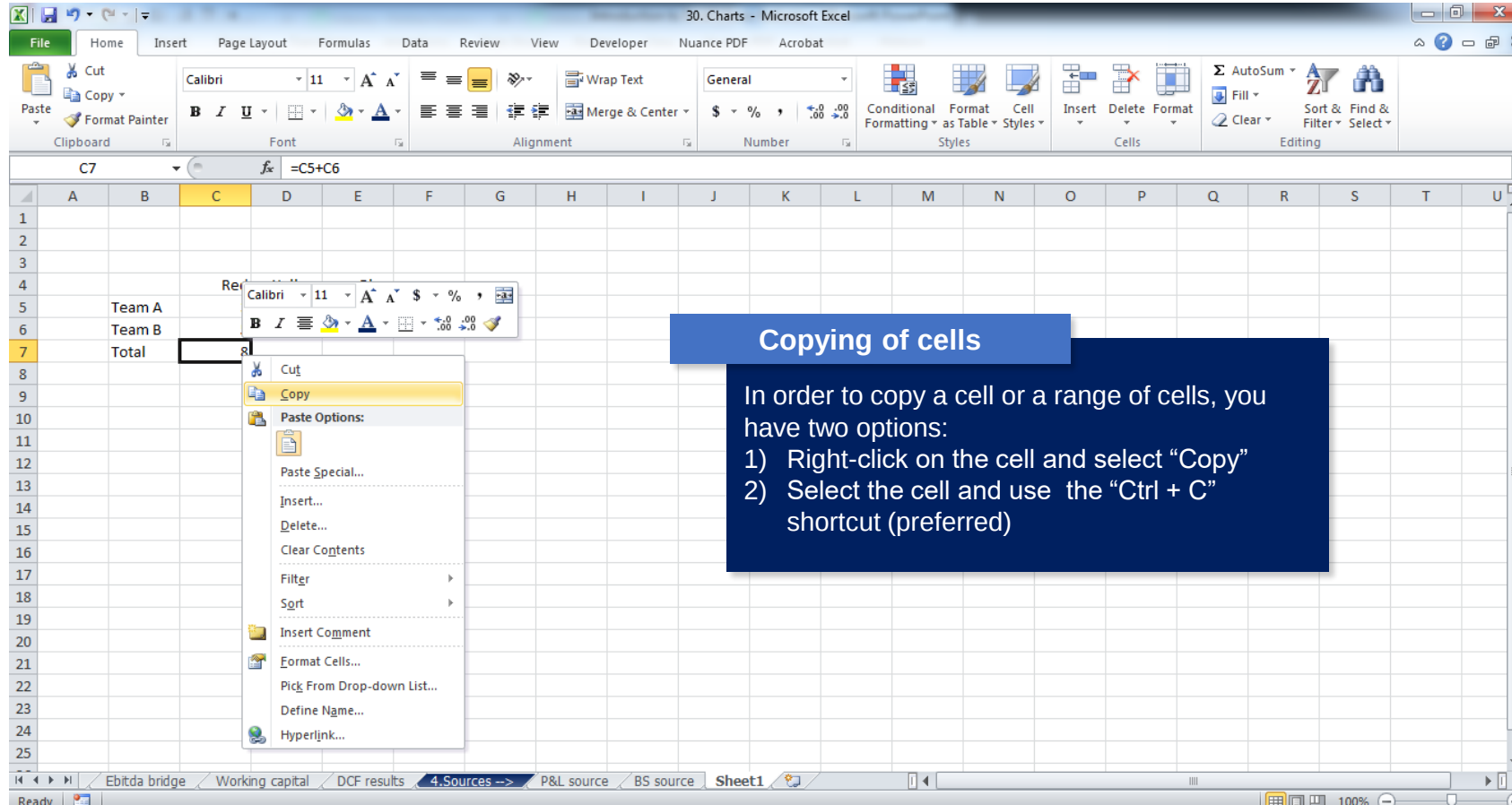
Type “=” or “+” at the beginning of your formula. By doing this, Excel understands that you would like to create a formula and not just type text

Type equal (“=”), select the cells for which you would like to carry out the operations, and introduce the necessary operators (in this example “+”)

Main formula operators

+ Addition	^ Elevation
- Subtraction	> Higher
* Multiplication	< Lower
/ Division	= Equal

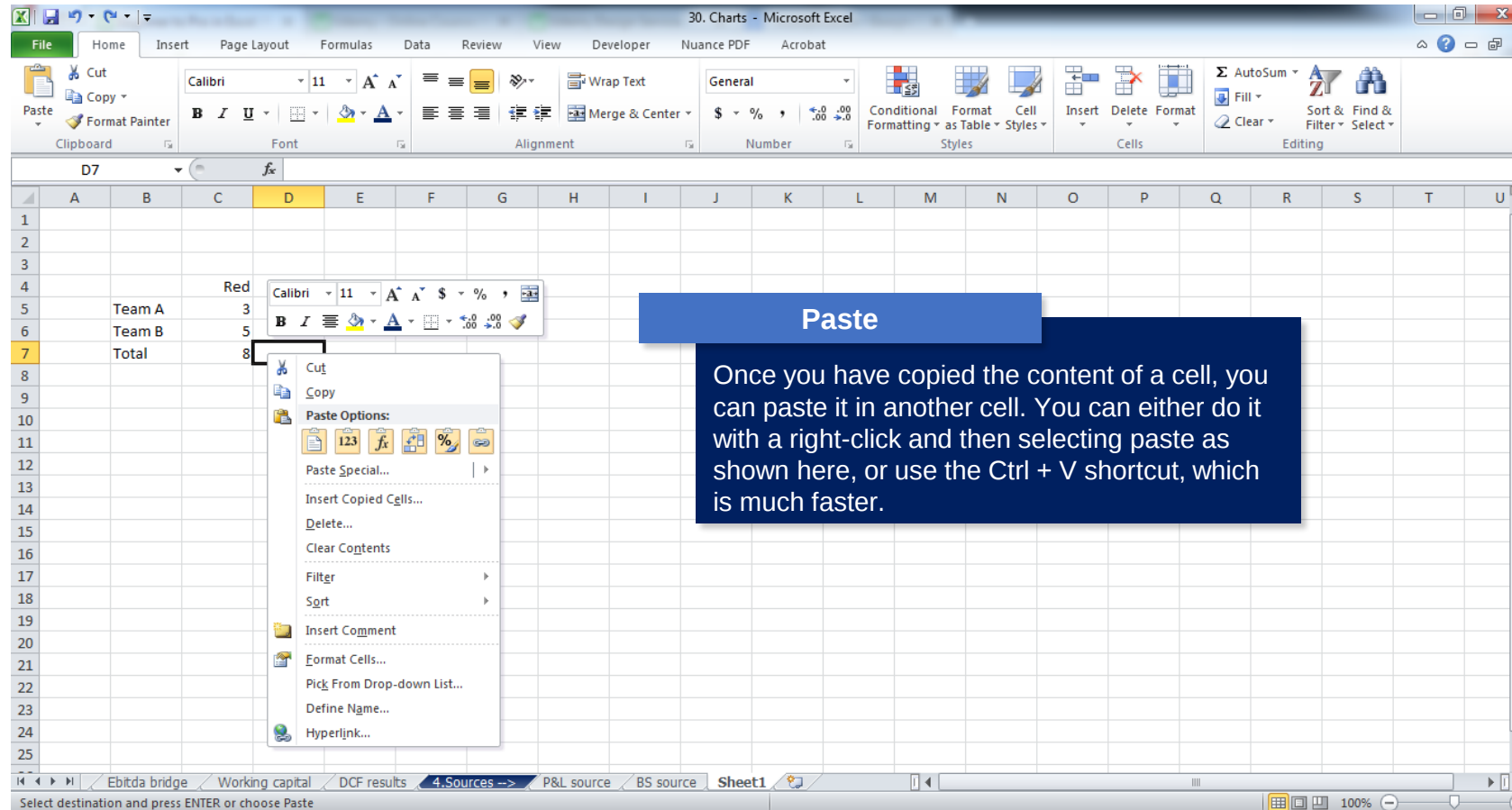
Copying of cells



Copying of cells

In order to copy a cell or a range of cells, you have two options:

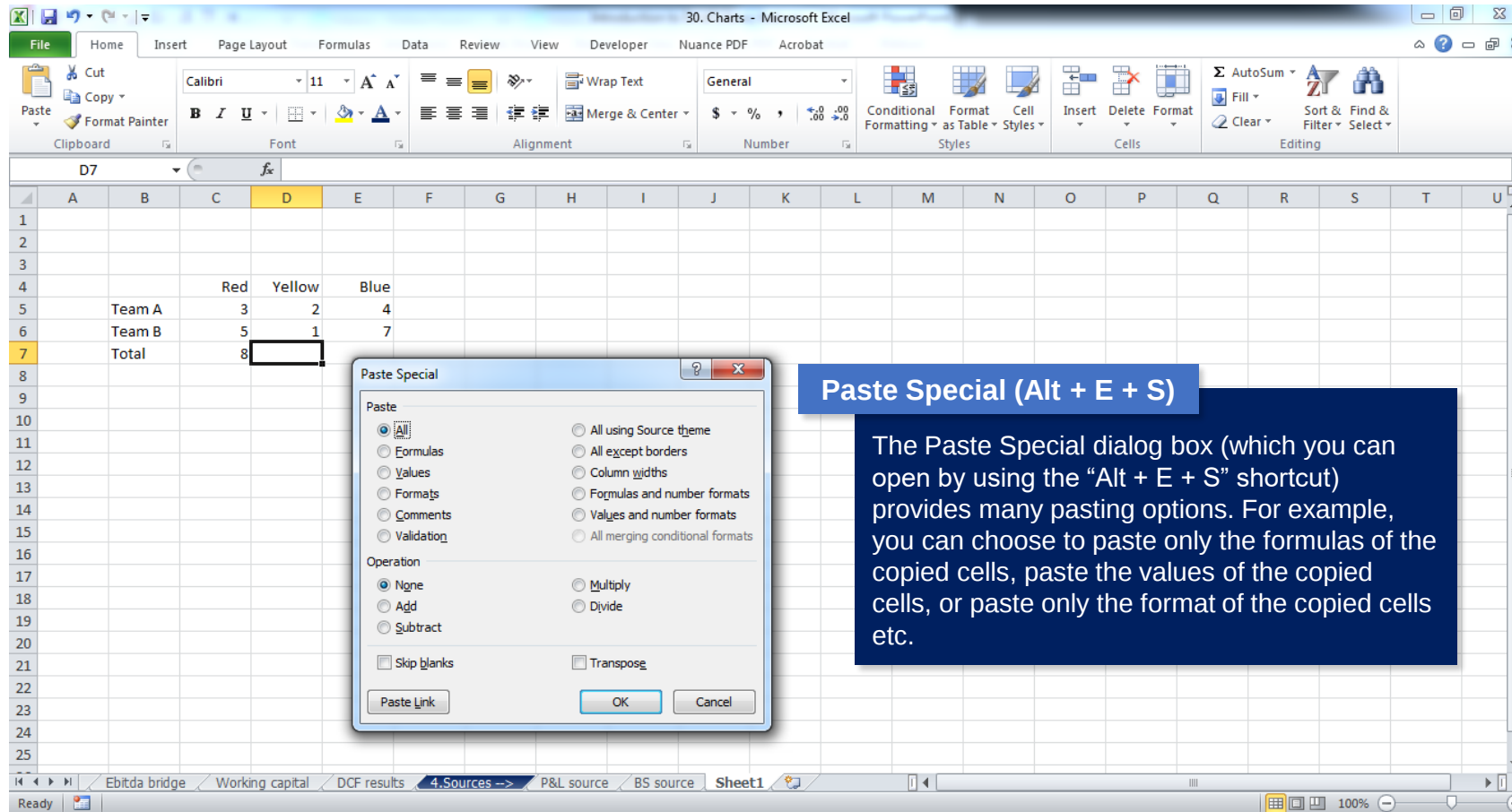
- 1) Right-click on the cell and select "Copy"
- 2) Select the cell and use the "Ctrl + C" shortcut (preferred)



The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The ribbon includes options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. A context menu is open over cell D7, displaying various options including Cut, Copy, Paste Options, Paste Special, Insert Copied Cells, Delete, Clear Contents, Filter, Sort, Insert Comment, Format Cells, Pick From Drop-down List, Define Name, and Hyperlink. A blue text box with the title 'Paste' explains that once content is copied, it can be pasted into another cell using a right-click and the 'Paste' option, or the Ctrl + V shortcut.

Paste

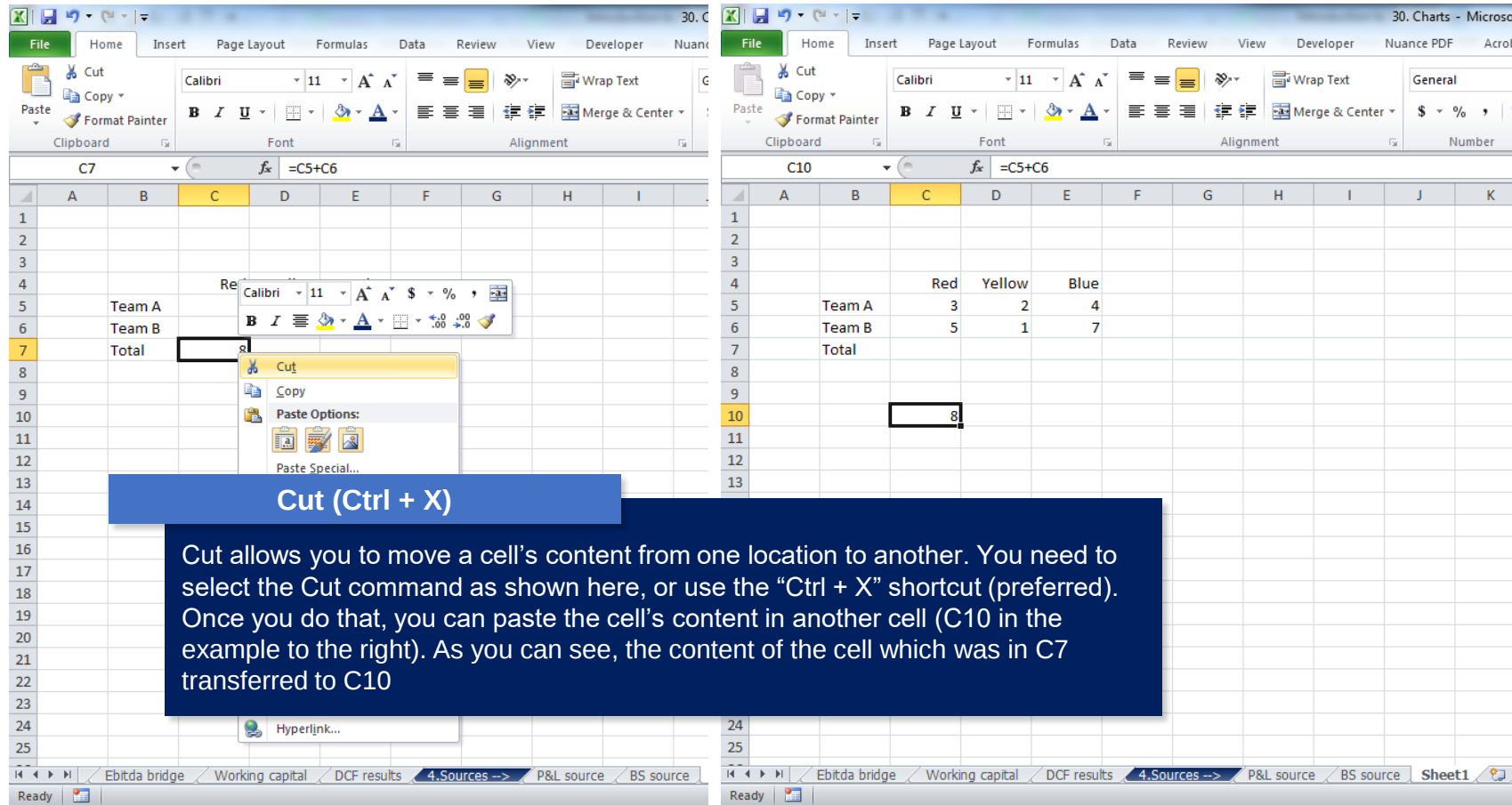
Once you have copied the content of a cell, you can paste it in another cell. You can either do it with a right-click and then selecting paste as shown here, or use the Ctrl + V shortcut, which is much faster.



Paste Special (Alt + E + S)

The Paste Special dialog box (which you can open by using the “Alt + E + S” shortcut) provides many pasting options. For example, you can choose to paste only the formulas of the copied cells, paste the values of the copied cells, or paste only the format of the copied cells etc.

	Red	Yellow	Blue
Team A	3	2	4
Team B	5	1	7
Total	8		



Cut (Ctrl + X)

Cut allows you to move a cell's content from one location to another. You need to select the Cut command as shown here, or use the "Ctrl + X" shortcut (preferred). Once you do that, you can paste the cell's content in another cell (C10 in the example to the right). As you can see, the content of the cell which was in C7 transferred to C10

Left Screenshot (Cell C7):

	A	B	C	D	E	F	G	H	I
1									
2									
3									
4									
5		Team A							
6		Team B							
7		Total	8						

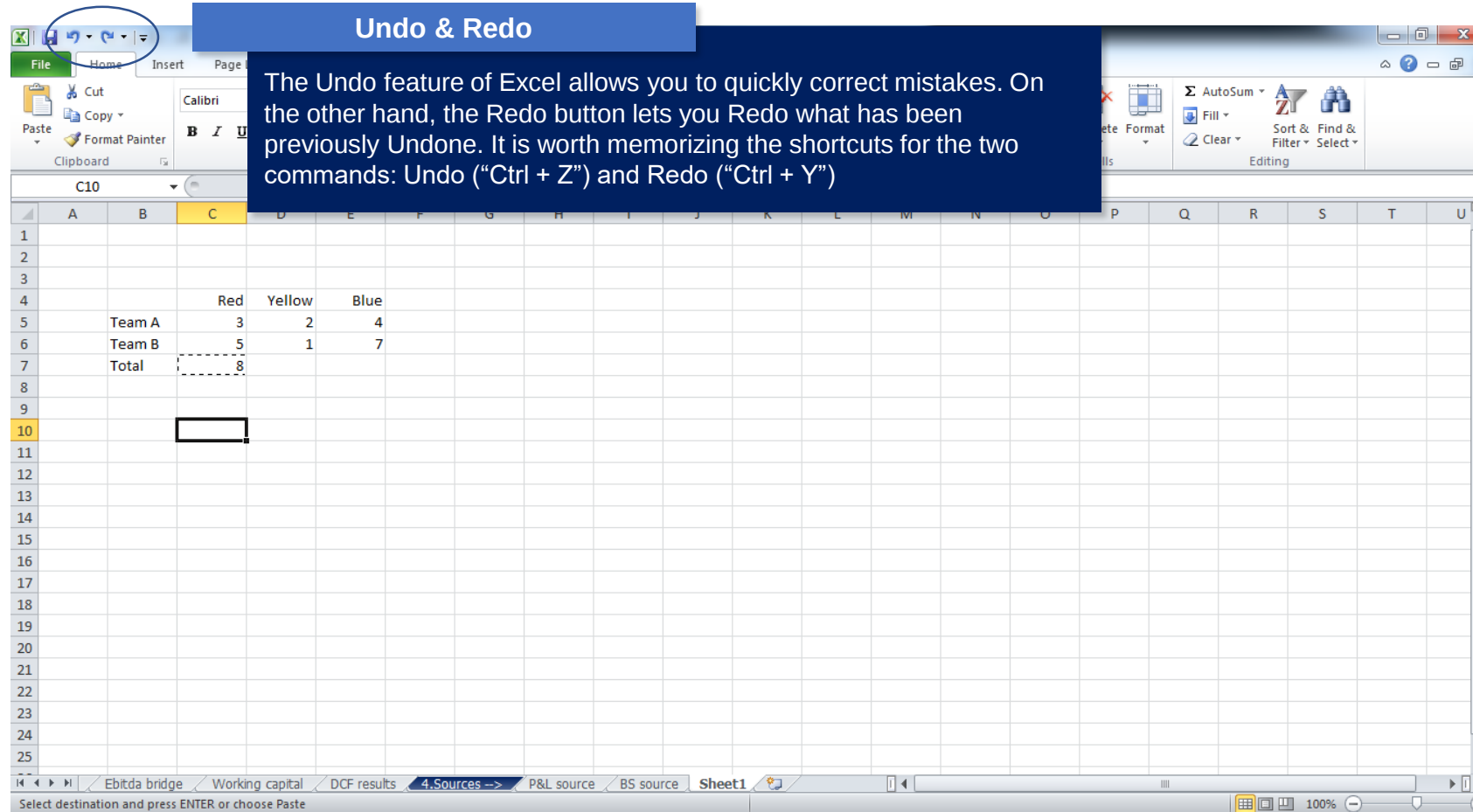
Right Screenshot (Cell C10):

	A	B	C	D	E	F	G	H	I	J	K
1											
2											
3											
4			Red	Yellow	Blue						
5		Team A	3	2	4						
6		Team B	5	1	7						
7		Total									
8											
9											
10			8								
11											
12											
13											

Undo & Redo

Undo & Redo

The Undo feature of Excel allows you to quickly correct mistakes. On the other hand, the Redo button lets you Redo what has been previously Undone. It is worth memorizing the shortcuts for the two commands: Undo ("Ctrl + Z") and Redo ("Ctrl + Y")



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3																					
4				Red	Yellow		Blue														
5		Team A	3	2	4																
6		Team B	5	1	7																
7		Total	8																		
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					

Select an area of cells

The screenshot shows the Microsoft Excel interface with the following data in the spreadsheet:

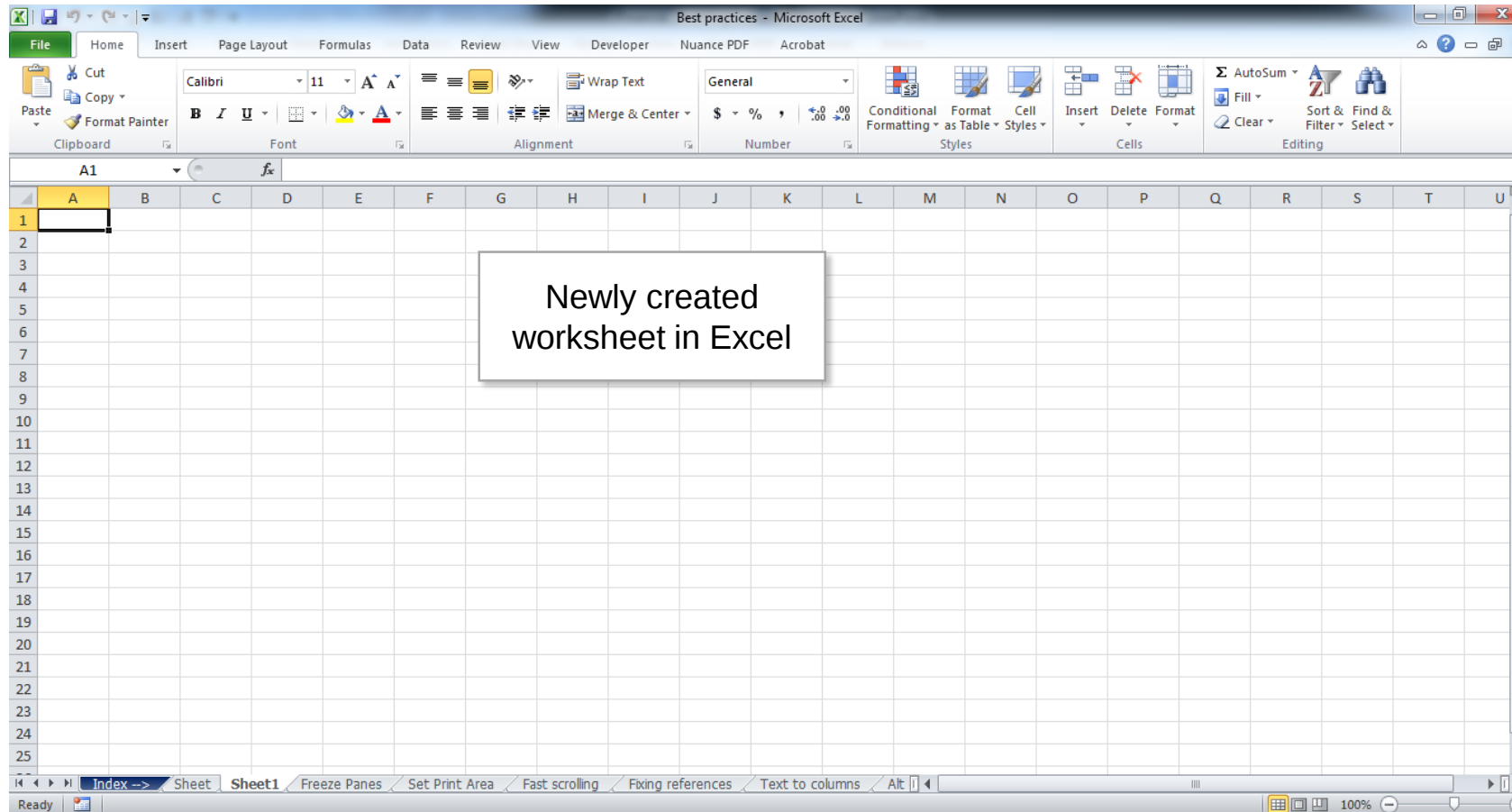
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3																					
4				Red	Yellow	Blue															
5		Team A	3	2	4																
6		Team B	5	1	7																
7		Total	8	3	11																
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					

Select cells (Shift + Arrow key)

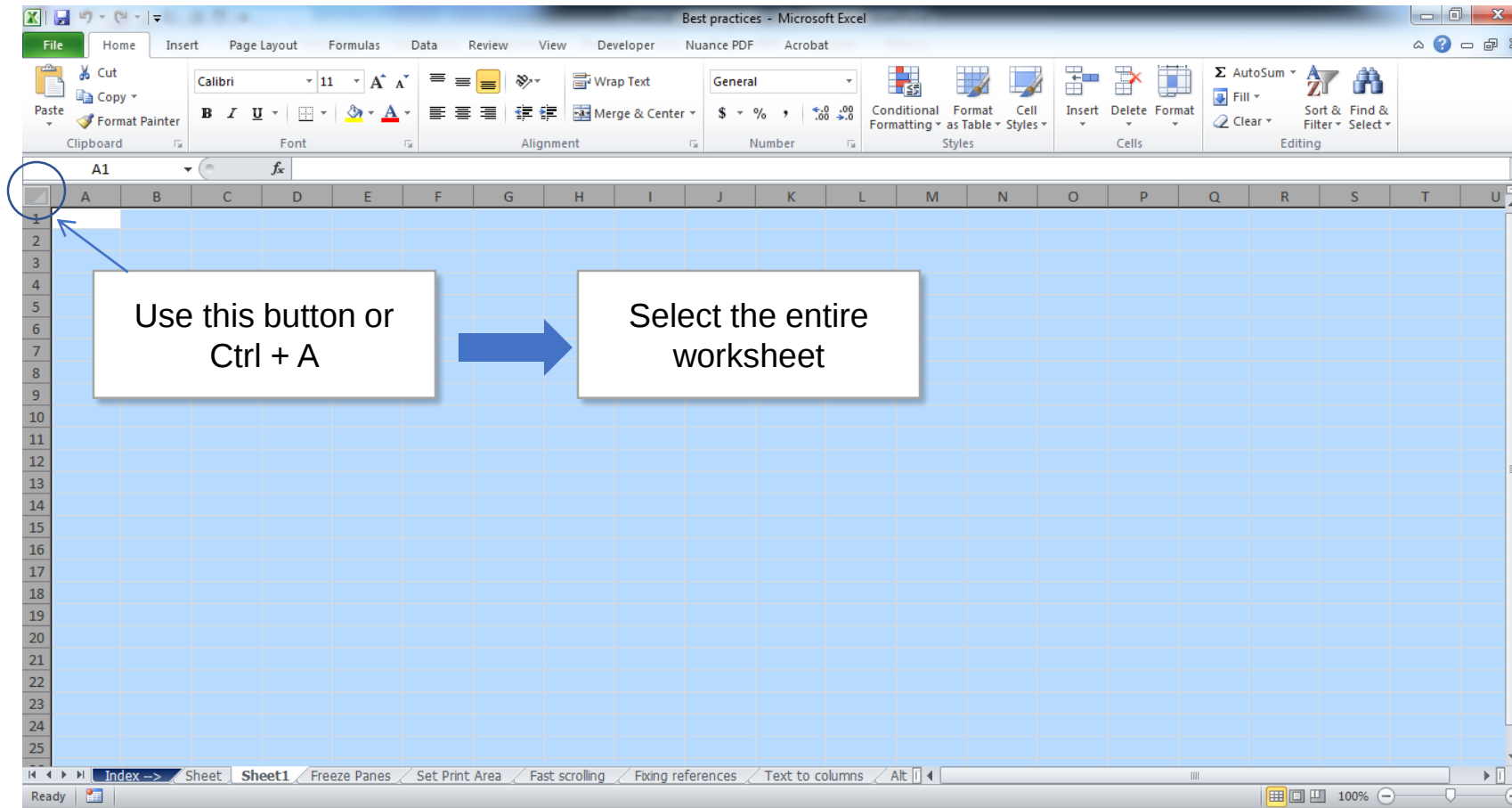
You can easily select cells by pressing shift and navigating with the arrow keys through the cells of the spreadsheet

II. A selection of useful tips and tools

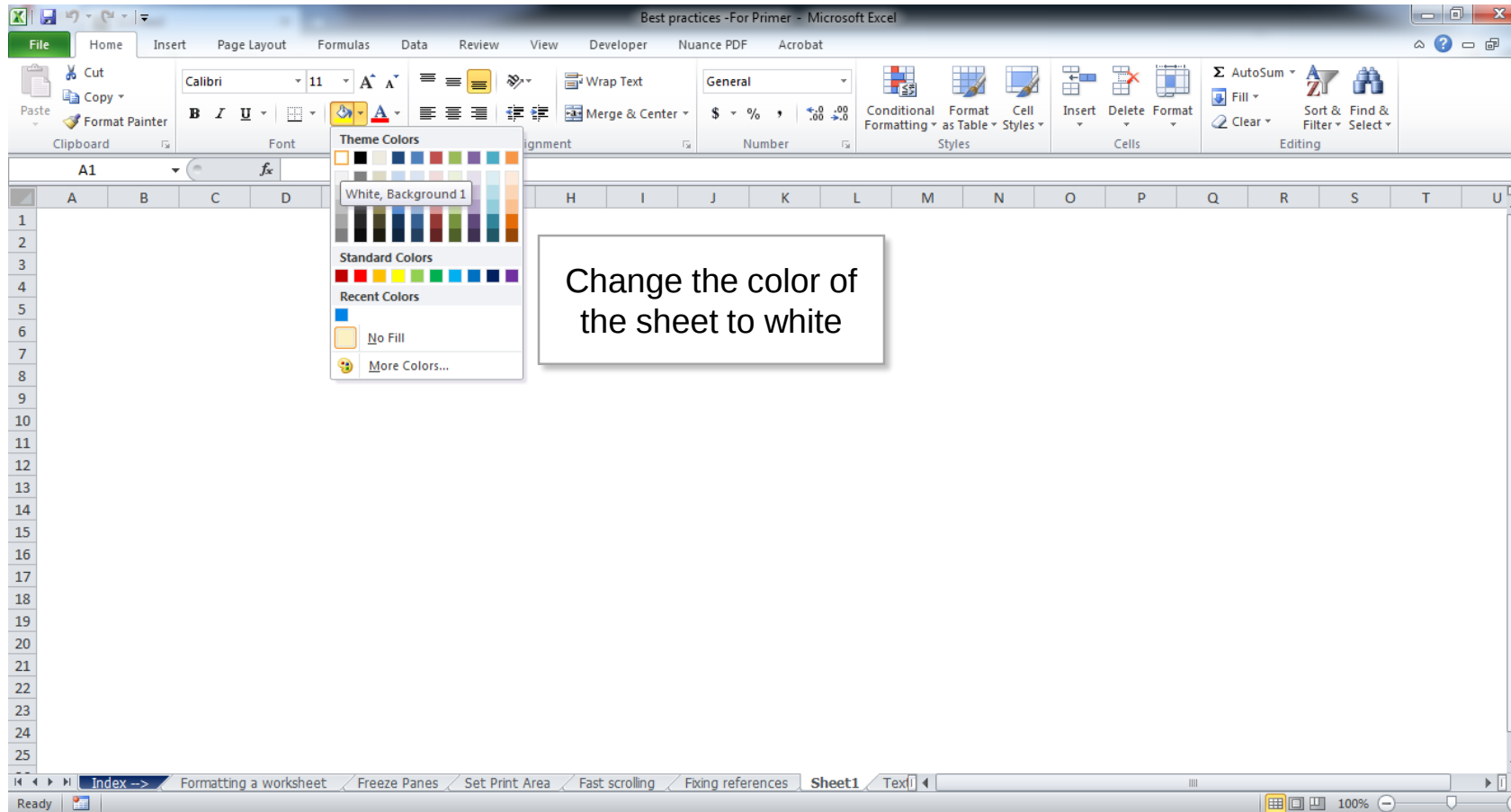
Formatting a worksheet



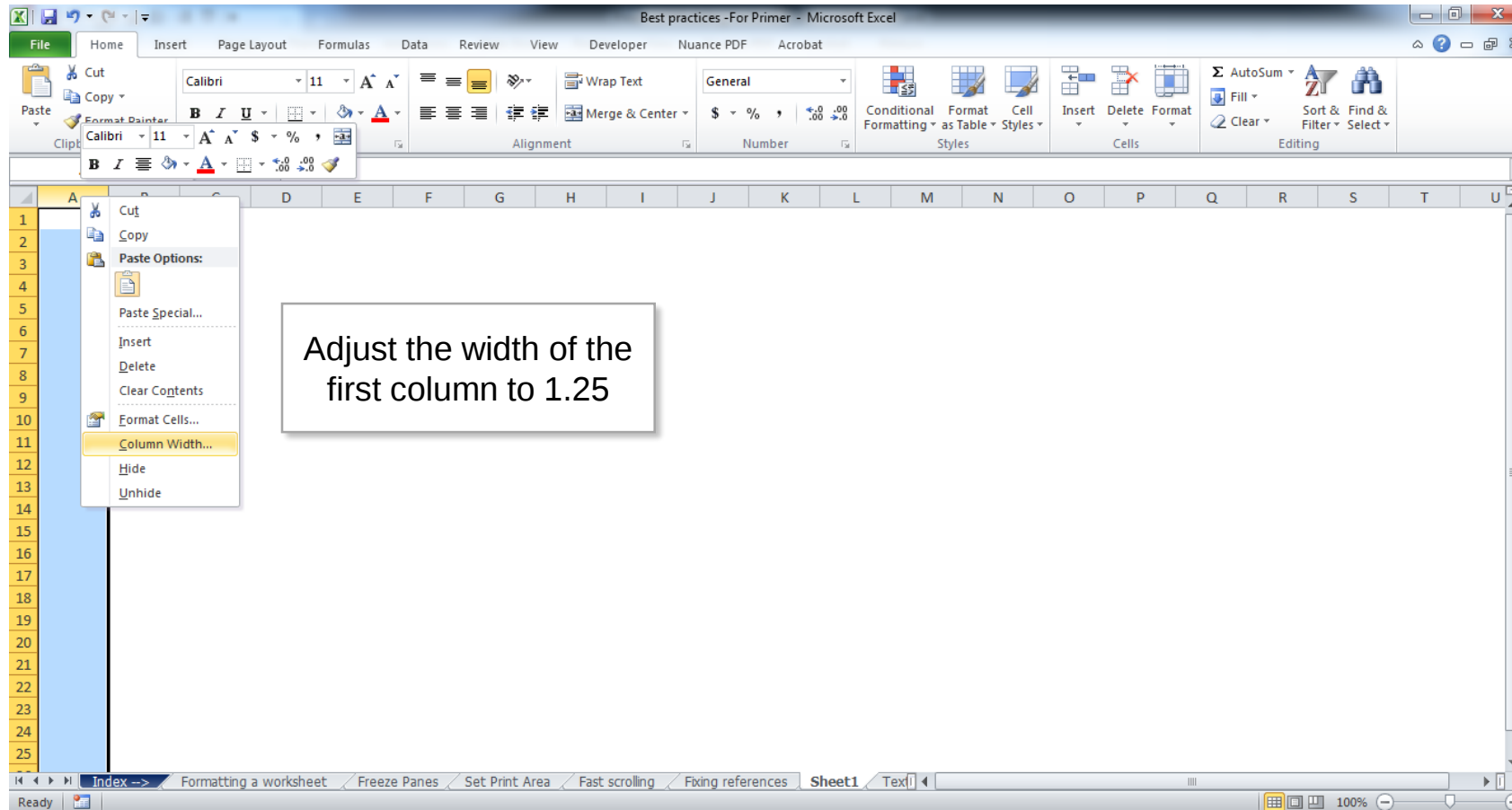
Formatting a worksheet



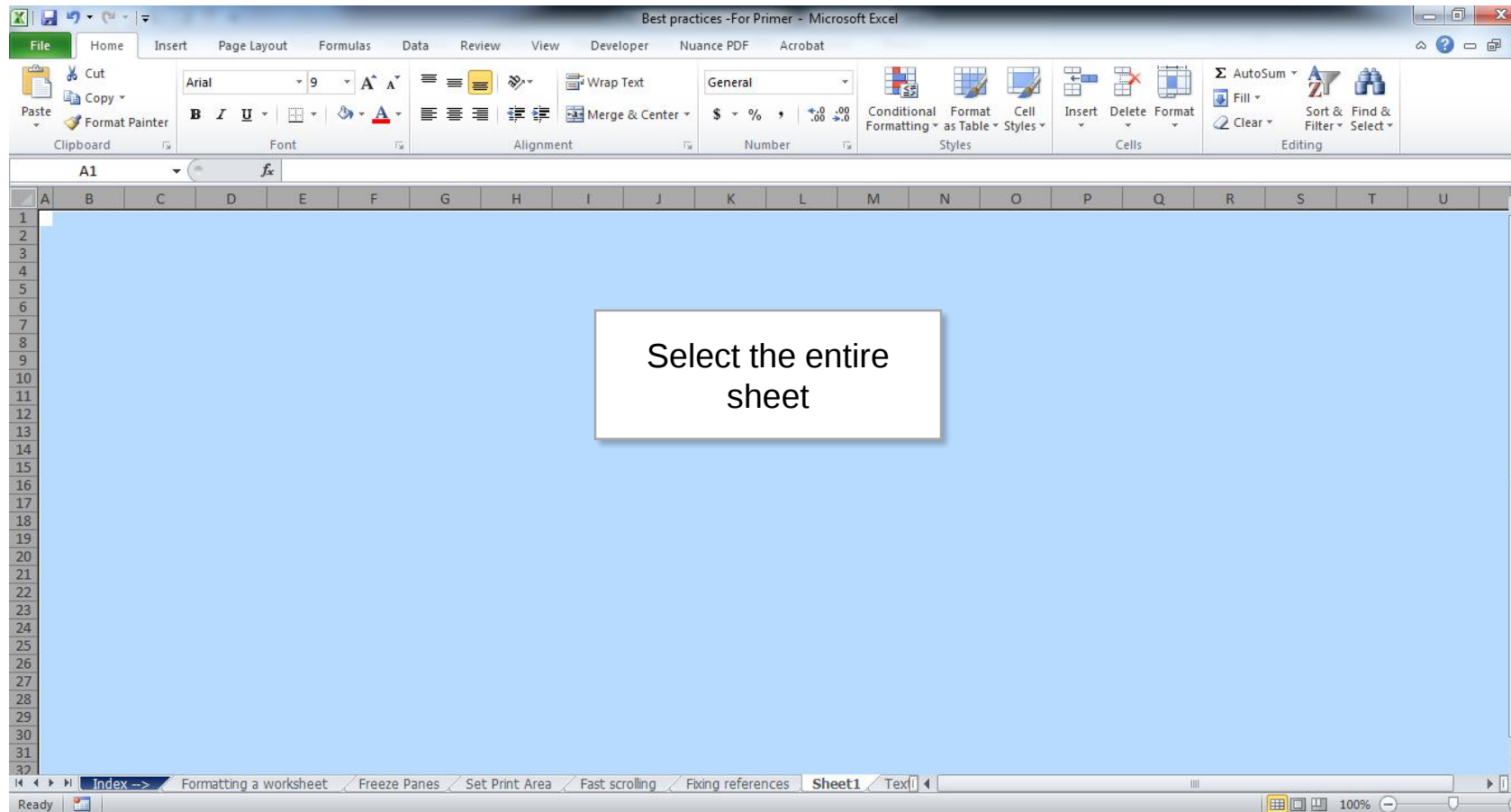
Formatting a worksheet



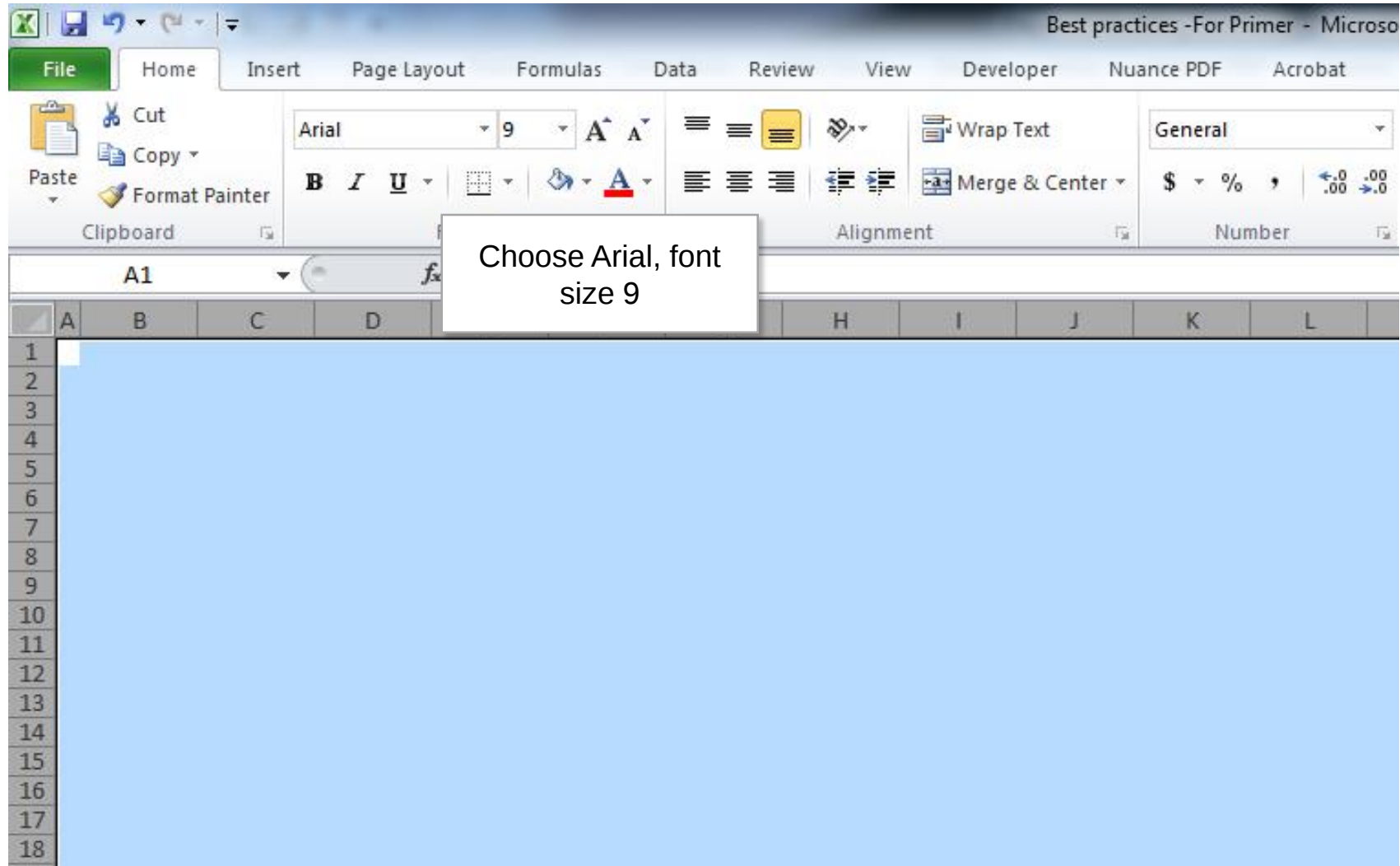
Formatting a worksheet



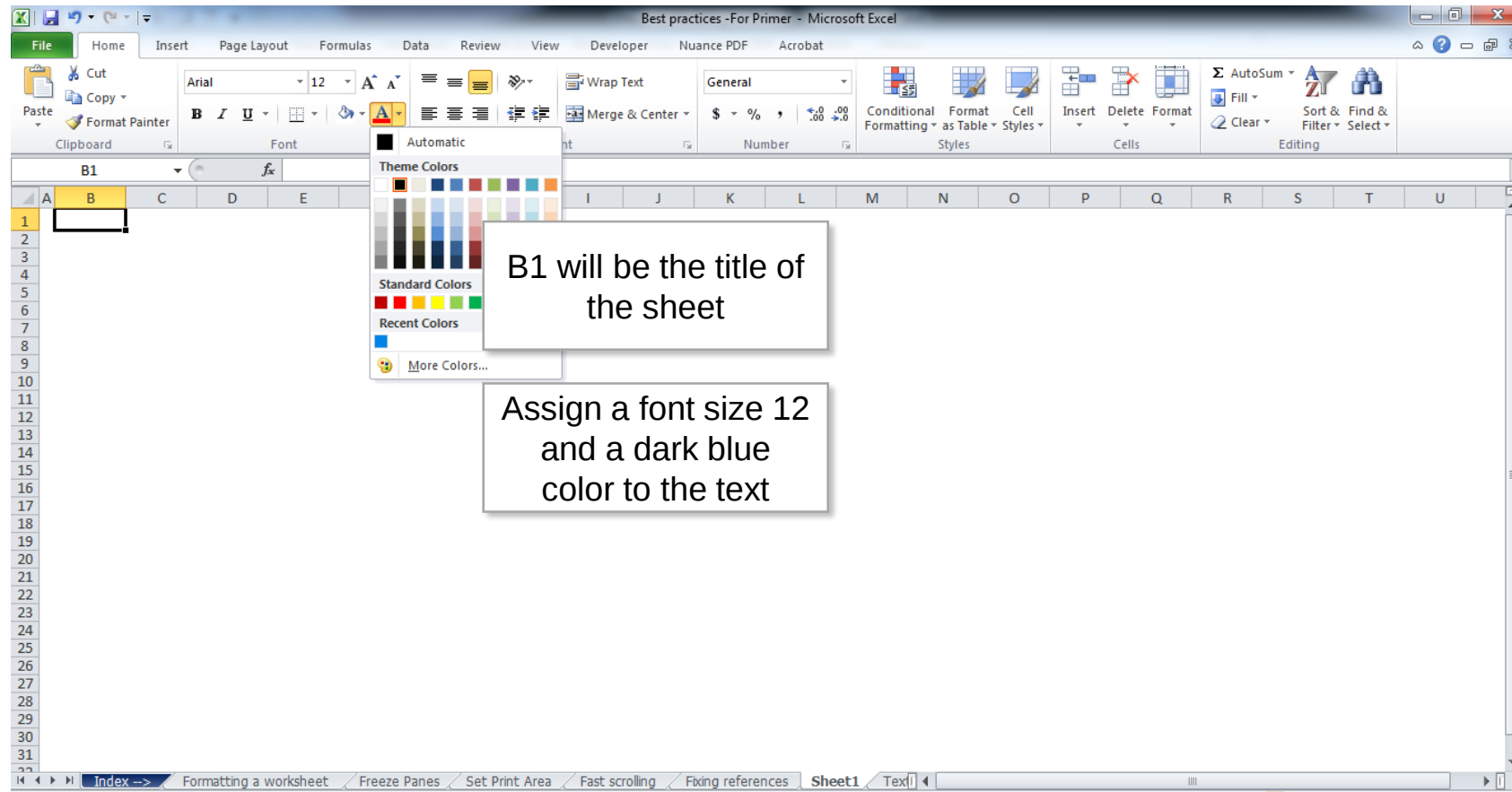
Formatting a worksheet



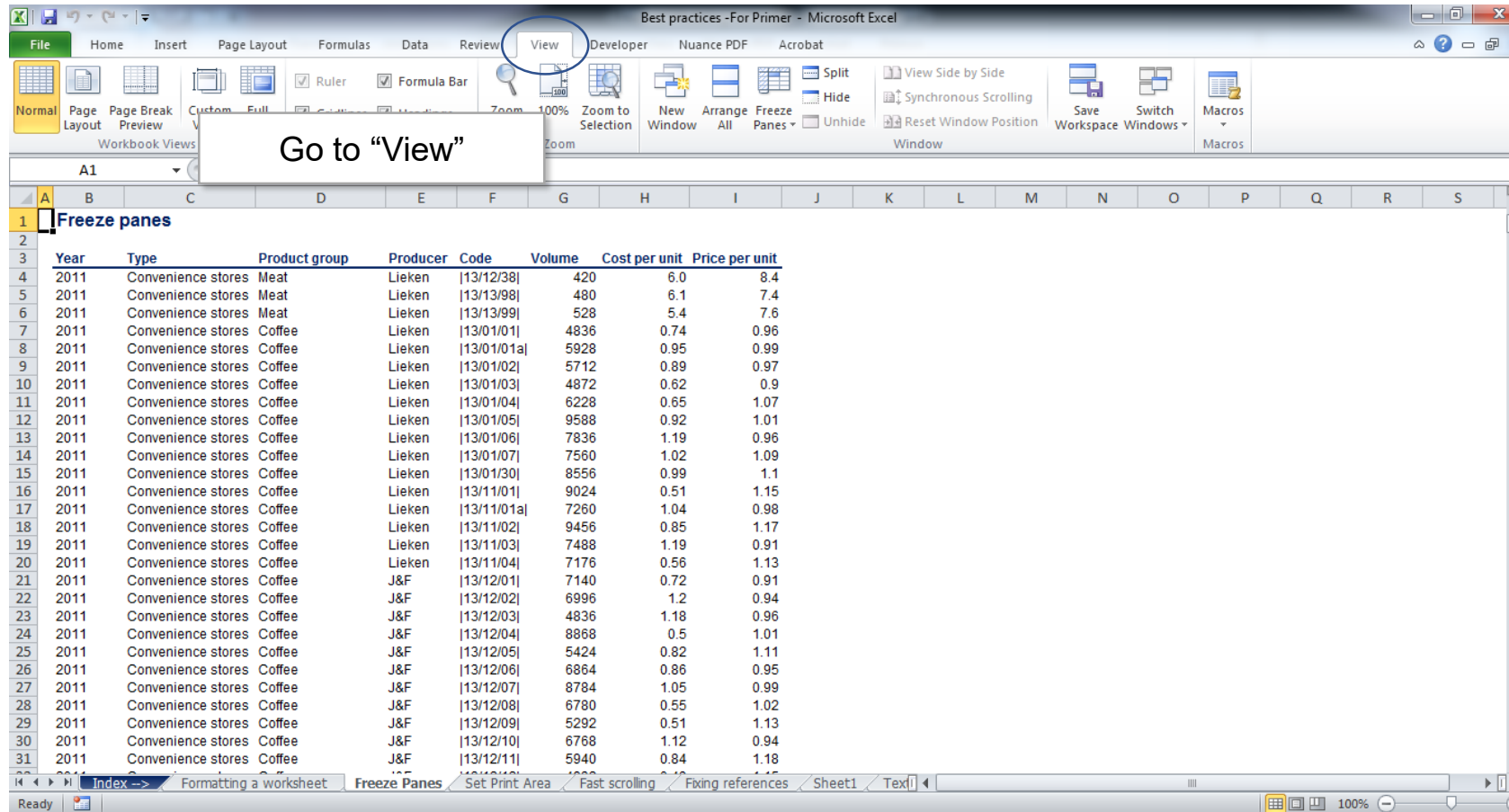
Formatting a worksheet



Formatting a worksheet



Freeze panes



The screenshot shows the Microsoft Excel interface with the 'View' tab selected. A callout box points to the 'View' tab with the text 'Go to "View"'. The 'Freeze Panes' button is highlighted in the 'View' tab ribbon. Below the ribbon, a table of data is visible, starting with a header row and 31 data rows.

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Coffee	Lieken	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee	Lieken	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Coffee	Lieken	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	Lieken	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	J&F	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	J&F	[13/12/02]	6996	1.2	0.94
2011	Convenience stores	Coffee	J&F	[13/12/03]	4836	1.18	0.96
2011	Convenience stores	Coffee	J&F	[13/12/04]	8868	0.5	1.01
2011	Convenience stores	Coffee	J&F	[13/12/05]	5424	0.82	1.11
2011	Convenience stores	Coffee	J&F	[13/12/06]	6864	0.86	0.95
2011	Convenience stores	Coffee	J&F	[13/12/07]	8784	1.05	0.99
2011	Convenience stores	Coffee	J&F	[13/12/08]	6780	0.55	1.02
2011	Convenience stores	Coffee	J&F	[13/12/09]	5292	0.51	1.13
2011	Convenience stores	Coffee	J&F	[13/12/10]	6768	1.12	0.94
2011	Convenience stores	Coffee	J&F	[13/12/11]	5940	0.84	1.18

Freeze panes

The screenshot shows the Microsoft Excel interface with the 'View' tab selected. The 'Freeze Panes' button is highlighted in the 'View' ribbon. A tooltip with the text 'Select a given row' is displayed over the data table. The data table has the following structure:

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Coffee				0.74	0.96
2011	Convenience stores	Coffee				0.95	0.99
2011	Convenience stores	Coffee				0.89	0.97
2011	Convenience stores	Coffee				0.62	0.9
2011	Convenience stores	Coffee	Lieken	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	Lieken	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	J&F	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	J&F	[13/12/02]	6996	1.2	0.94
2011	Convenience stores	Coffee	J&F	[13/12/03]	4836	1.18	0.96
2011	Convenience stores	Coffee	J&F	[13/12/04]	8868	0.5	1.01
2011	Convenience stores	Coffee	J&F	[13/12/05]	5424	0.82	1.11
2011	Convenience stores	Coffee	J&F	[13/12/06]	6864	0.86	0.95
2011	Convenience stores	Coffee	J&F	[13/12/07]	8784	1.05	0.99
2011	Convenience stores	Coffee	J&F	[13/12/08]	6780	0.55	1.02
2011	Convenience stores	Coffee	J&F	[13/12/09]	5292	0.51	1.13
2011	Convenience stores	Coffee	J&F	[13/12/10]	6768	1.12	0.94
2011	Convenience stores	Coffee	J&F	[13/12/11]	5940	0.84	1.18

Freeze panes

The screenshot shows the Microsoft Excel interface with the 'View' tab selected. The 'Freeze Panes' button in the ribbon is highlighted, and a context menu is open. A callout box points to the 'Freeze Panes' button with the text 'Click on “Freeze Panes”'. The context menu includes the following options:

- Freeze Panes**
Keep rows and columns visible while the rest of the worksheet scrolls (based on current selection).
- Freeze Sheet Panes**
Keep the top row visible while scrolling through the rest of the worksheet.
- Freeze First Column**
Keep the first column visible while scrolling through the rest of the worksheet.

The worksheet contains a table with the following data:

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per
2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	
2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Coffee	Lieken	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee	Lieken	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Coffee	Lieken	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	Lieken	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	J&F	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	J&F	[13/12/02]	6996	1.2	0.94
2011	Convenience stores	Coffee	J&F	[13/12/03]	4836	1.18	0.96
2011	Convenience stores	Coffee	J&F	[13/12/04]	8868	0.5	1.01
2011	Convenience stores	Coffee	J&F	[13/12/05]	5424	0.82	1.11
2011	Convenience stores	Coffee	J&F	[13/12/06]	6864	0.86	0.95
2011	Convenience stores	Coffee	J&F	[13/12/07]	8784	1.05	0.99
2011	Convenience stores	Coffee	J&F	[13/12/08]	6780	0.55	1.02
2011	Convenience stores	Coffee	J&F	[13/12/09]	5292	0.51	1.13
2011	Convenience stores	Coffee	J&F	[13/12/10]	6768	1.12	0.94
2011	Convenience stores	Coffee	J&F	[13/12/11]	5940	0.84	1.18

Freeze panes

The result is that the first three rows remained visible even when we scroll down

	Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
15106	2013	Convenience stores	Coffee	Jacobs	[11/02/01]	9576	0.72	1.03
15107	2013	Convenience stores	Sweets	Sapori di S	[76/01/01]	1212	1.47	1.62
15108	2013	Convenience stores	Sweets	Sapori di S	[76/01/02]	684	1.37	1.9
15109	2013	Convenience stores	Sweets	Sapori di S	[76/01/03]	996	1.18	1.81
15110	2013	Convenience stores	Sweets	Sapori di S	[76/01/04]	852	1.16	1.8
15111	2013	Convenience stores	Sweets	Sapori di S	[76/01/05a]	756	1.48	1.75
15112	2013	Convenience stores	Sweets	Sapori di S	[76/01/06a]	636	1.29	1.72
15113	2013	Convenience stores	Beverages	TIP	[26/01/04]	60	1.03	1.33
15114	2013	Supermarkets	Vegetables	Monzuro	[102/01/01]	1524	0.76	1.19
15115	2013	Supermarkets	Vegetables	Monzuro	[102/01/02]	1452	0.64	0.93
15116	2013	Supermarkets	Vegetables	Monzuro	[102/01/03]	1572	0.9	1.11
15117	2013	Supermarkets	Vegetables	Monzuro	[102/01/04]	1512	0.82	1.07
15118	2013	Supermarkets	Vegetables	Monzuro	[102/01/05]	1320	0.83	1.02
15119	2013	Supermarkets	Vegetables	Monzuro	[102/01/06]	1572	0.64	0.93
15120	2013	Supermarkets	Vegetables	Monzuro	[102/01/07]	1296	0.89	1.02
15121	2013	Supermarkets	Vegetables	Monzuro	[102/01/08]	1512	0.81	1.08
15122								
15123								
15124								
15125								
15126								
15127								
15128								
15129								
15130								
15131								
15132								
15133								

Freeze panes

Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Normal Page Layout Page Break Preview Custom Views Full Screen

Workbook Views

Ruler Formula Bar Gridlines Headings

Zoom 100% Zoom to Selection

New Window Arrange All

Freeze Panes

Split Hide View Side by Side Synchronous Scrolling Save Workspace Switch Windows

Unhide Reset Window Position

Macros

Unfreeze Panes
Unlock all rows and columns to scroll through the entire worksheet.

Freeze Top Row
Keep the top row visible while scrolling through the rest of the worksheet.

Freeze First Column
Keep the first column visible while scrolling through the rest of the worksheet.

Click "Unfreeze Panes" if you would like to unlock the row

	Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
15106	2013	Convenience stores	Coffee	Jacobs	[11/02/01]	9576	0.72	
15107	2013	Convenience stores	Sweets	Sapori di S	[76/01/01]	1212	1.47	1.62
15108	2013	Convenience stores	Sweets	Sapori di S	[76/01/02]	684	1.37	1.9
15109	2013	Convenience stores	Sweets	Sapori di S	[76/01/03]	996	1.18	1.81
15110	2013	Convenience stores	Sweets	Sapori di S	[76/01/04]	852	1.16	1.8
15111	2013	Convenience stores	Sweets	Sapori di S	[76/01/05a]	756	1.48	1.75
15112	2013	Convenience stores	Sweets	Sapori di S	[76/01/06a]	636	1.29	1.72
15113	2013	Convenience stores	Beverages	TIP	[26/01/04]	60	1.03	1.33
15114	2013	Supermarkets	Vegetables	Monzuro	[102/01/01]	1524	0.76	1.19
15115	2013	Supermarkets	Vegetables	Monzuro	[102/01/02]	1452	0.64	0.93
15116	2013	Supermarkets	Vegetables	Monzuro	[102/01/03]	1572	0.9	1.11
15117	2013	Supermarkets	Vegetables	Monzuro	[102/01/04]	1512	0.82	1.07
15118	2013	Supermarkets	Vegetables	Monzuro	[102/01/05]	1320	0.83	1.02
15119	2013	Supermarkets	Vegetables	Monzuro	[102/01/06]	1572	0.64	0.93
15120	2013	Supermarkets	Vegetables	Monzuro	[102/01/07]	1296	0.89	1.02
15121	2013	Supermarkets	Vegetables	Monzuro	[102/01/08]	1512	0.81	1.08
15122								
15123								
15124								
15125								
15126								
15127								
15128								
15129								
15130								
15131								
15132								
15133								

Ready

Freeze panes

The screenshot shows the Microsoft Excel interface with the 'View' tab selected. The 'Freeze Panes' button in the ribbon is highlighted, and its dropdown menu is open. The menu options are:

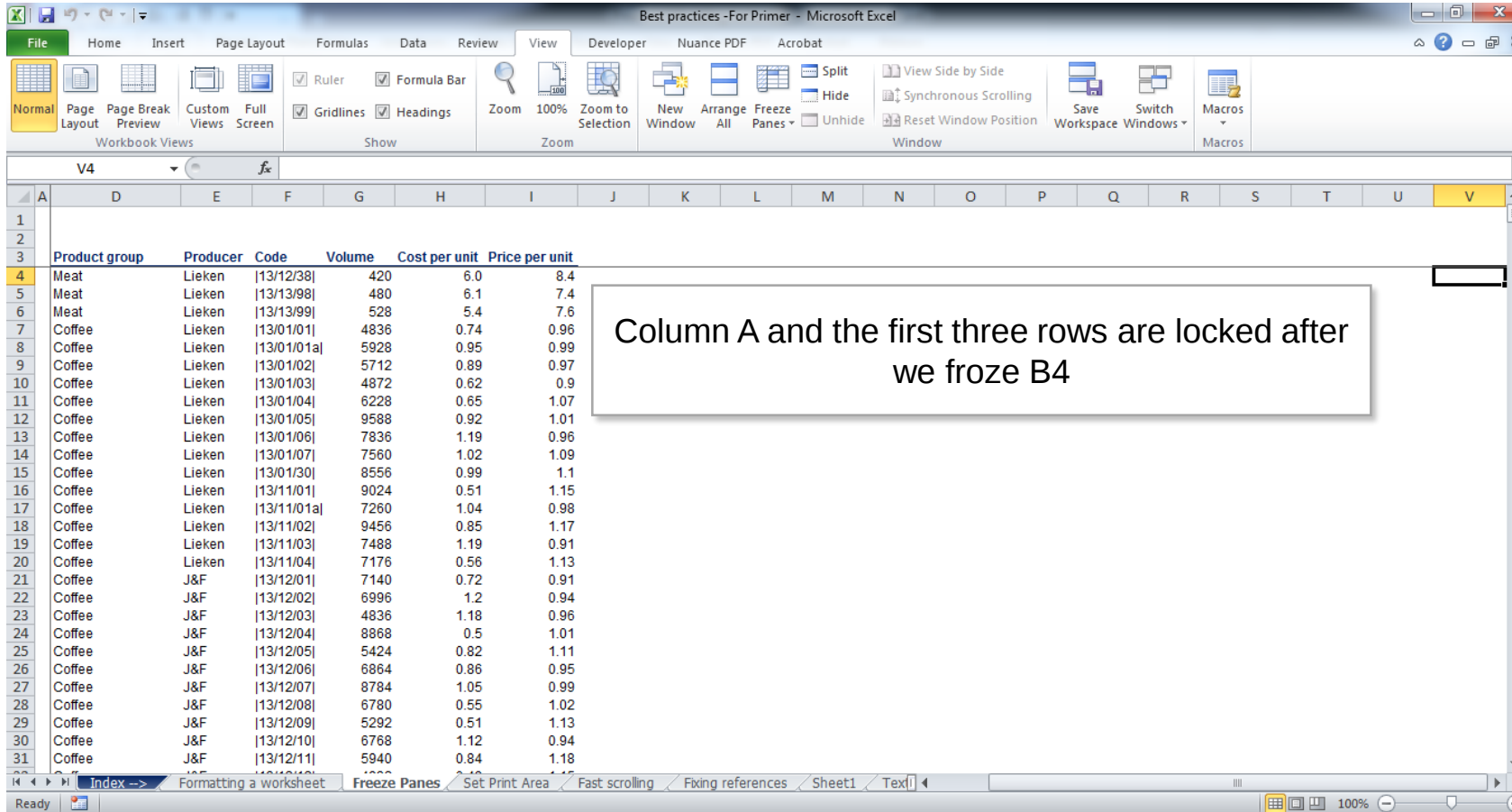
- Freeze Panes**: Keep rows and columns visible while the rest of the worksheet scrolls (based on current selection).
- Freeze Sheet Panes**: Keep the active sheet visible while scrolling through the rest of the worksheet.
- Freeze First Column**: Keep the first column visible while scrolling through the rest of the worksheet.

The worksheet contains a table with the following data:

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per
2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	
2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	J&F	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	J&F	[13/12/02]	6996	1.2	0.94
2011	Convenience stores	Coffee	J&F	[13/12/03]	4836	1.18	0.96
2011	Convenience stores	Coffee	J&F	[13/12/04]	8868	0.5	1.01
2011	Convenience stores	Coffee	J&F	[13/12/05]	5424	0.82	1.11
2011	Convenience stores	Coffee	J&F	[13/12/06]	6864	0.86	0.95
2011	Convenience stores	Coffee	J&F	[13/12/07]	8784	1.05	0.99
2011	Convenience stores	Coffee	J&F	[13/12/08]	6780	0.55	1.02
2011	Convenience stores	Coffee	J&F	[13/12/09]	5292	0.51	1.13
2011	Convenience stores	Coffee	J&F	[13/12/10]	6768	1.12	0.94
2011	Convenience stores	Coffee	J&F	[13/12/11]	5940	0.84	1.18

We could use "Freeze Panes" for columns, rows or single cells. In this example we will freeze everything above B4 and everything to its left side

Freeze panes



Column A and the first three rows are locked after we froze B4

	Product group	Producer	Code	Volume	Cost per unit	Price per unit
4	Meat	Lieken	[13/12/38]	420	6.0	8.4
5	Meat	Lieken	[13/13/98]	480	6.1	7.4
6	Meat	Lieken	[13/13/99]	528	5.4	7.6
7	Coffee	Lieken	[13/01/01]	4836	0.74	0.96
8	Coffee	Lieken	[13/01/01a]	5928	0.95	0.99
9	Coffee	Lieken	[13/01/02]	5712	0.89	0.97
10	Coffee	Lieken	[13/01/03]	4872	0.62	0.9
11	Coffee	Lieken	[13/01/04]	6228	0.65	1.07
12	Coffee	Lieken	[13/01/05]	9588	0.92	1.01
13	Coffee	Lieken	[13/01/06]	7836	1.19	0.96
14	Coffee	Lieken	[13/01/07]	7560	1.02	1.09
15	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
16	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
17	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
18	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
19	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
20	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
21	Coffee	J&F	[13/12/01]	7140	0.72	0.91
22	Coffee	J&F	[13/12/02]	6996	1.2	0.94
23	Coffee	J&F	[13/12/03]	4836	1.18	0.96
24	Coffee	J&F	[13/12/04]	8868	0.5	1.01
25	Coffee	J&F	[13/12/05]	5424	0.82	1.11
26	Coffee	J&F	[13/12/06]	6864	0.86	0.95
27	Coffee	J&F	[13/12/07]	8784	1.05	0.99
28	Coffee	J&F	[13/12/08]	6780	0.55	1.02
29	Coffee	J&F	[13/12/09]	5292	0.51	1.13
30	Coffee	J&F	[13/12/10]	6768	1.12	0.94
31	Coffee	J&F	[13/12/11]	5940	0.84	1.18

Set print area

The screenshot shows the Microsoft Excel interface with the 'View' tab selected. The worksheet contains a table with employee data. A text box overlay with the text 'Select the area that you would like to be printed' is positioned over the table. The table has the following data:

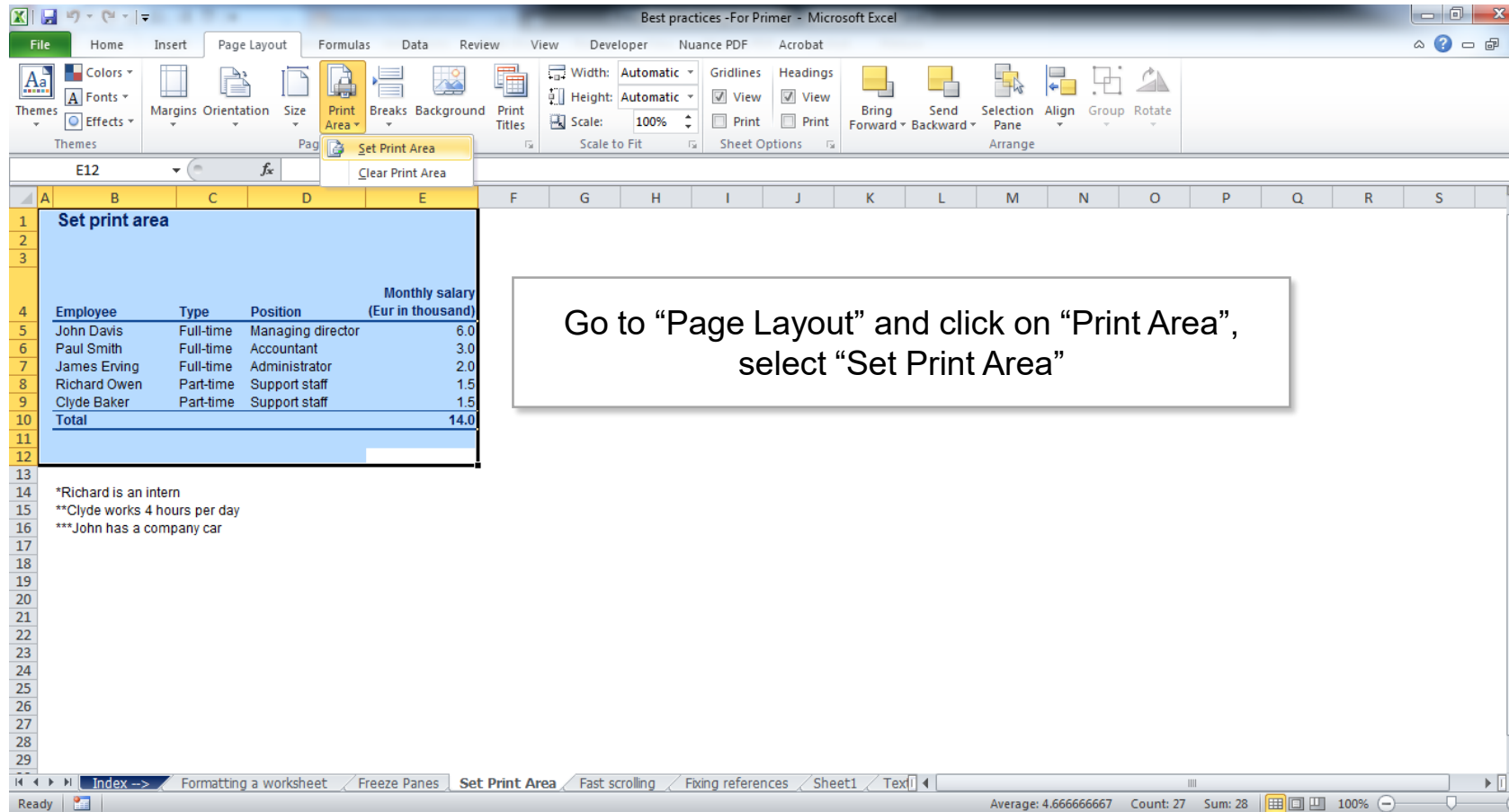
Employee	Type	Position	Monthly salary (Eur in thousand)
John Davis	Full-time	Managing director	6.0
Paul Smith	Full-time	Accountant	3.0
James Erving	Full-time	Administrator	2.0
Richard Owen	Part-time	Support staff	1.5
Clyde Baker	Part-time	Support staff	1.5
Total			14.0

Below the table, there are three lines of text:

- *Richard is an intern
- **Clyde works 4 hours per day
- ***John has a company car

The status bar at the bottom shows 'Average: 4.666666667', 'Count: 27', 'Sum: 28', and '100%'.

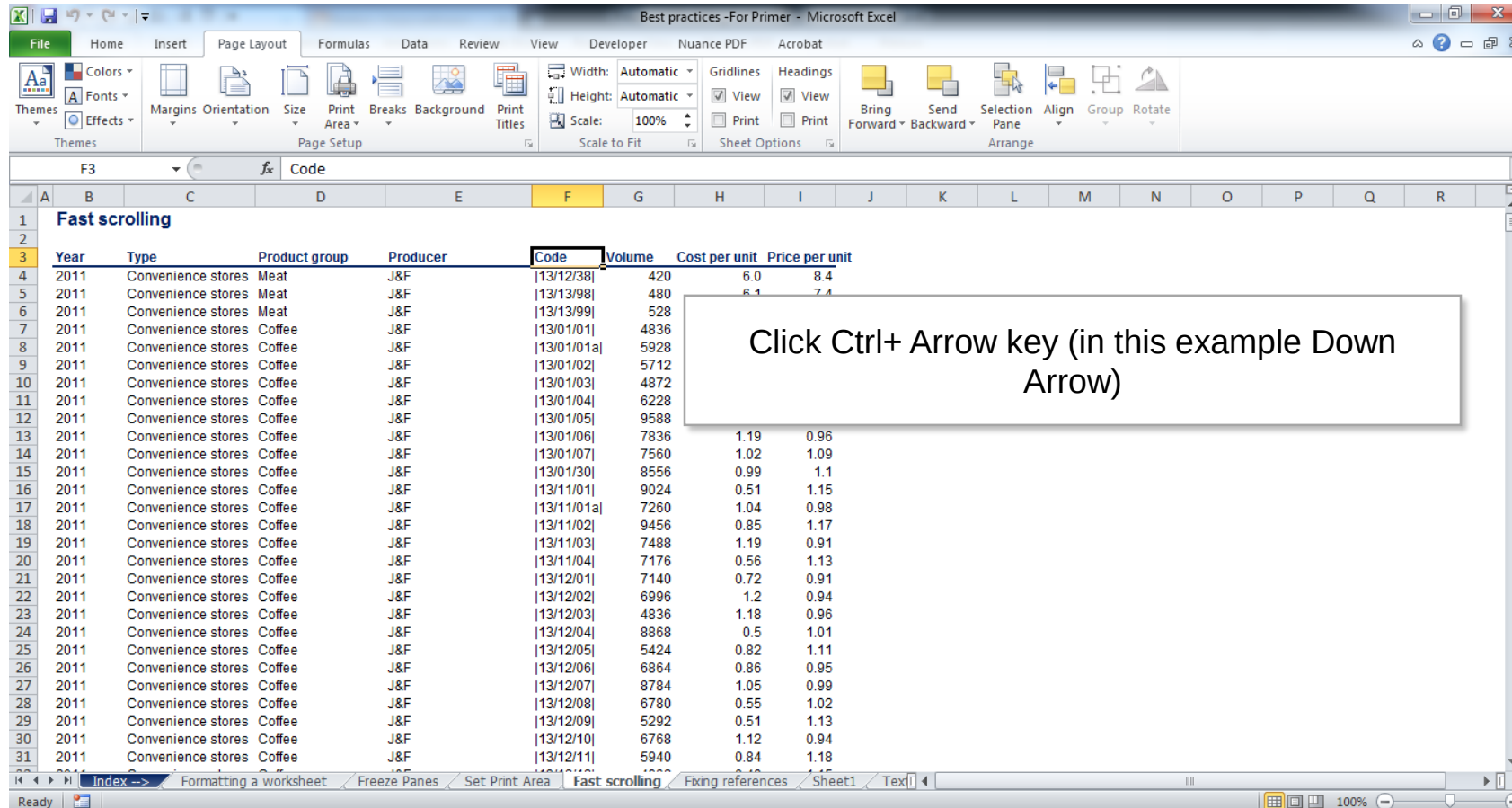
Set print area



Go to “Page Layout” and click on “Print Area”,
select “Set Print Area”

Employee	Type	Position	Monthly salary (Eur in thousand)
John Davis	Full-time	Managing director	6.0
Paul Smith	Full-time	Accountant	3.0
James Erving	Full-time	Administrator	2.0
Richard Owen	Part-time	Support staff	1.5
Clyde Baker	Part-time	Support staff	1.5
Total			14.0

*Richard is an intern
**Clyde works 4 hours per day
***John has a company car



The screenshot shows the Microsoft Excel interface with the 'Page Layout' tab selected. A large data table is displayed, starting with a header row in row 3. A callout box is overlaid on the table, indicating the use of the Ctrl+Arrow key for fast scrolling.

Fast scrolling

Click Ctrl+ Arrow key (in this example Down Arrow)

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.1
2011	Convenience stores	Meat	J&F	[13/13/99]	528		
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836		
2011	Convenience stores	Coffee	J&F	[13/01/01a]	5928		
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712		
2011	Convenience stores	Coffee	J&F	[13/01/03]	4872		
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228		
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588		
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	J&F	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	J&F	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	J&F	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	J&F	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	J&F	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	J&F	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	J&F	[13/12/02]	6996	1.2	0.94
2011	Convenience stores	Coffee	J&F	[13/12/03]	4836	1.18	0.96
2011	Convenience stores	Coffee	J&F	[13/12/04]	8868	0.5	1.01
2011	Convenience stores	Coffee	J&F	[13/12/05]	5424	0.82	1.11
2011	Convenience stores	Coffee	J&F	[13/12/06]	6864	0.86	0.95
2011	Convenience stores	Coffee	J&F	[13/12/07]	8784	1.05	0.99
2011	Convenience stores	Coffee	J&F	[13/12/08]	6780	0.55	1.02
2011	Convenience stores	Coffee	J&F	[13/12/09]	5292	0.51	1.13
2011	Convenience stores	Coffee	J&F	[13/12/10]	6768	1.12	0.94
2011	Convenience stores	Coffee	J&F	[13/12/11]	5940	0.84	1.18

Fast scrolling

Best practices -For Primer - Microsoft Excel

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Themes Colors Fonts Effects Margins Orientation Size Print Area Breaks Background Print Titles Width: Automatic Height: Automatic Scale: 100% Gridlines View Print Bring Forward Send Backward Selection Pane Arrange

F15121 102/01/08

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
15091		2013	Convenience stores	Cosmetics	Sephora	[01/01/26]	720	4.65	5.17									
15092		2013	Convenience stores	Cosmetics	Sephora	[01/01/30]	240	4.81	5.11									
15093		2013	Convenience stores	Cosmetics	Sephora	[01/01/31]	324	4.66	5.4									
15094		2013	Convenience stores	Cosmetics	Sephora	[01/01/32]	276	4.07	5.25									
15095		2013	Convenience stores	Cosmetics	Sephora	[01/01/33]	504	4.87	5.24									
15096		2013	Convenience stores	Cosmetics	Sephora	[01/01/34]	720	4.25	5.35									
15097		2013	Convenience stores	Cosmetics	Sephora	[01/01/35]	33											
15098		2013	Convenience stores	Cosmetics	Sephora	[01/01/36]	68											
15099		2013	Convenience stores	Cosmetics	Sephora	[01/01/37]	48											
15100		2013	Convenience stores	Cosmetics	Sephora	[01/01/38]	25											
15101		2013	Convenience stores	Cosmetics	Sephora	[01/01/39]	69											
15102		2013	Convenience stores	Cosmetics	Sephora	[01/01/40]	43											
15103		2013	Convenience stores	Cosmetics	Sephora	[01/01/41]	36											
15104		2013	Convenience stores	Cosmetics	Sephora	[01/01/42]	372	4.69	5.05									
15105		2013	Convenience stores	Coffee	Jacobs	[11/01/01]	5772	0.66	1.09									
15106		2013	Convenience stores	Coffee	Jacobs	[11/02/01]	957											
15107		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/01]	121											
15108		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/02]	68											
15109		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/03]	99											
15110		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/04]	85											
15111		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/05a]	75											
15112		2013	Convenience stores	Sweets	Sapori di Siena	[76/01/06a]	63											
15113		2013	Convenience stores	Beverages	TIP	[26/01/04]	60	1.03	1.33									
15114		2013	Supermarkets	Vegetables	Monzuro	[102/01/01]	1524	0.76	1.19									
15115		2013	Supermarkets	Vegetables	Monzuro	[102/01/02]	1452	0.64	0.93									
15116		2013	Supermarkets	Vegetables	Monzuro	[102/01/03]	1572	0.9	1.11									
15117		2013	Supermarkets	Vegetables	Monzuro	[102/01/04]	1512	0.82	1.07									
15118		2013	Supermarkets	Vegetables	Monzuro	[102/01/05]	1320	0.83	1.02									
15119		2013	Supermarkets	Vegetables	Monzuro	[102/01/06]	1572	0.64	0.93									
15120		2013	Supermarkets	Vegetables	Monzuro	[102/01/07]	1296	0.89	1.02									
15121		2013	Supermarkets	Vegetables	Monzuro	[102/01/08]	1512	0.81	1.08									
15122																		

Index -> Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Sheet1 Text1

Ready 100%

Excel will take you to the last non-blank cell

This command can be used in any direction

Fast scrolling

365 Careers

The screenshot shows the Microsoft Excel interface with the 'Page Layout' tab selected. The worksheet contains a large table of data with columns A through R. The data is organized into rows, with the first column (A) containing IDs (e.g., 15091, 15092, etc.), the second column (B) containing years (2013), and subsequent columns (C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R) containing various product and sales information. A text box overlay is present in the center of the worksheet, stating: 'You can also select the range that you are scrolling through, by holding Ctrl + Shift + Arrow Key'. The status bar at the bottom indicates 'Count: 15119' and '100%' zoom.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
15091	2013	Convenience stores	Cosmetics	Sephora	[01/01/26]	720	4.65	5.17									
15092	2013	Convenience stores	Cosmetics	Sephora	[01/01/30]	240	4.81	5.11									
15093	2013	Convenience stores	Cosmetics	Sephora	[01/01/31]	324	4.66	5.4									
15094	2013	Convenience stores	Cosmetics	Sephora	[01/01/32]	276	4.07	5.25									
15095	2013	Convenience stores	Cosmetics	Sephora	[01/01/33]	504	4.87	5.24									
15096	2013	Convenience stores	Cosmetics	Sephora	[01/01/34]	720	4.25	5.35									
15097	2013	Convenience stores	Cosmetics	Sephora	[01/01/35]	336	4.12	5.1									
15098	2013	Convenience stores	Cosmetics	Sephora	[01/01/36]	684	4.95	5.36									
15099	2013	Convenience stores	Cosmetics	Sephora	[01/01/37]	480	4.45	5.05									
15100	2013	Convenience stores	Cosmetics	Sephora	[01/01/38]	25											
15101	2013	Convenience stores	Cosmetics	Sephora	[01/01/39]	69											
15102	2013	Convenience stores	Cosmetics	Sephora	[01/01/40]	43											
15103	2013	Convenience stores	Cosmetics	Sephora	[01/01/41]	36											
15104	2013	Convenience stores	Cosmetics	Sephora	[01/01/42]	37											
15105	2013	Convenience stores	Coffee	Jacobs	[11/01/01]	577											
15106	2013	Convenience stores	Coffee	Jacobs	[11/02/01]	957											
15107	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/01]	1212	1.47	1.62									
15108	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/02]	684	1.37	1.9									
15109	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/03]	996	1.18	1.81									
15110	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/04]	852	1.16	1.8									
15111	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/05a]	756	1.48	1.75									
15112	2013	Convenience stores	Sweets	Sapori di Siena	[76/01/06a]	636	1.29	1.72									
15113	2013	Convenience stores	Beverages	TIP	[26/01/04]	60	1.03	1.33									
15114	2013	Supermarkets	Vegetables	Monzuro	[102/01/01]	1524	0.76	1.19									
15115	2013	Supermarkets	Vegetables	Monzuro	[102/01/02]	1452	0.64	0.93									
15116	2013	Supermarkets	Vegetables	Monzuro	[102/01/03]	1572	0.9	1.11									
15117	2013	Supermarkets	Vegetables	Monzuro	[102/01/04]	1512	0.82	1.07									
15118	2013	Supermarkets	Vegetables	Monzuro	[102/01/05]	1320	0.83	1.02									
15119	2013	Supermarkets	Vegetables	Monzuro	[102/01/06]	1572	0.64	0.93									
15120	2013	Supermarkets	Vegetables	Monzuro	[102/01/07]	1296	0.89	1.02									
15121	2013	Supermarkets	Vegetables	Monzuro	[102/01/08]	1512	0.81	1.08									
15122																	

Fixing references

Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Cut Copy Paste Format Painter Clipboard Font Alignment Number Styles

VLOOKUP X ✓ fx =G4*H4

	A	B	C	D	E	F	G	H	I	J	K	L
1		Fixing references										
2												
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit			
4		2011	Convenience stores	Meat	Lieken	13/12/38	420	6.0	8.4		=G4*H4	
5		2011	Convenience stores	Meat	Lieken	13/13/98	480	6.1	7.4			
6		2011	Convenience stores	Meat	Lieken	13/13/99						
7		2011	Convenience stores	Coffee	Lieken	13/01/01						
8		2011	Convenience stores	Coffee	Lieken	13/01/01a						
9		2011	Convenience stores	Coffee	Lieken	13/01/02						
10		2011	Convenience stores	Coffee	Lieken	13/01/03						
11		2011	Convenience stores	Coffee	Lieken	13/01/04	6228	0.65	1.07			
12		2011	Convenience stores	Coffee	Lieken	13/01/05	9588	0.92	1.01			
13		2011	Convenience stores	Coffee	Lieken	13/01/06	7836	1.19	0.96			
14		2011	Convenience stores	Coffee	Lieken	13/01/07	7560	1.02	1.09			
15		2011	Convenience stores	Coffee	Lieken	13/01/30	8556	0.99	1.1			
16		2011	Convenience stores	Coffee	Lieken	13/11/01	9024	0.51	1.15			
17		2011	Convenience stores	Coffee	Lieken	13/11/01a	7260	1.04	0.98			

We multiply
(Volume) * (Cost per Unit)

Fixing references

Best practices -For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles

VLOOKUP $\times$ $\checkmark$ f_x $=H4*I4$

	A	B	C	D	E	F	G	H	I	J	K	L
1		Fixing references										
2												
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit			
4		2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4		2528.4	$=H4*I4$
5		2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4			
6		2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6			
7		2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.96			
8		2011	Convenience stores	Coffee	Lieken	[13/01/01a]						
9		2011	Convenience stores	Coffee	Lieken	[13/01/02]						
10		2011	Convenience stores	Coffee	Lieken	[13/01/03]						
11		2011	Convenience stores	Coffee	Lieken	[13/01/04]						
12		2011	Convenience stores	Coffee	Lieken	[13/01/05]						
13		2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836	1.19	0.96			
14		2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09			
15		2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1			
16		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15			
17		2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98			
18		2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17			
19		2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91			
20		2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13			
21		2011	Convenience stores	Coffee	Lieken	[13/12/01]	7140	0.72	0.91			

If we copy the formula to the right it will multiply (Cost per Unit) * (Price per Unit)

Fixing references

Best practices - For Primer - Microsoft Excel

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G is the column reference 4 is the row reference

VLOOKUP $\text{=}\$G4*\text{H}4$

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15
2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98
2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17
2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91
2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13
2011	Convenience stores	Coffee	Lieken	[13/12/01]	7140	0.72	0.91
2011	Convenience stores	Coffee	Lieken	[13/12/02]	6996	1.2	0.94

Let's say that we want to do the following:

1. Multiply (Volume) * (Cost per Unit)
2. Copy the ready formula and multiple (Volume) * (Price per Unit)

We have to fix the column reference of Volume because we would like to multiply by Volume when we copy to the right

$\text{=}\$G4*\text{H}4$

Fixing references

Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

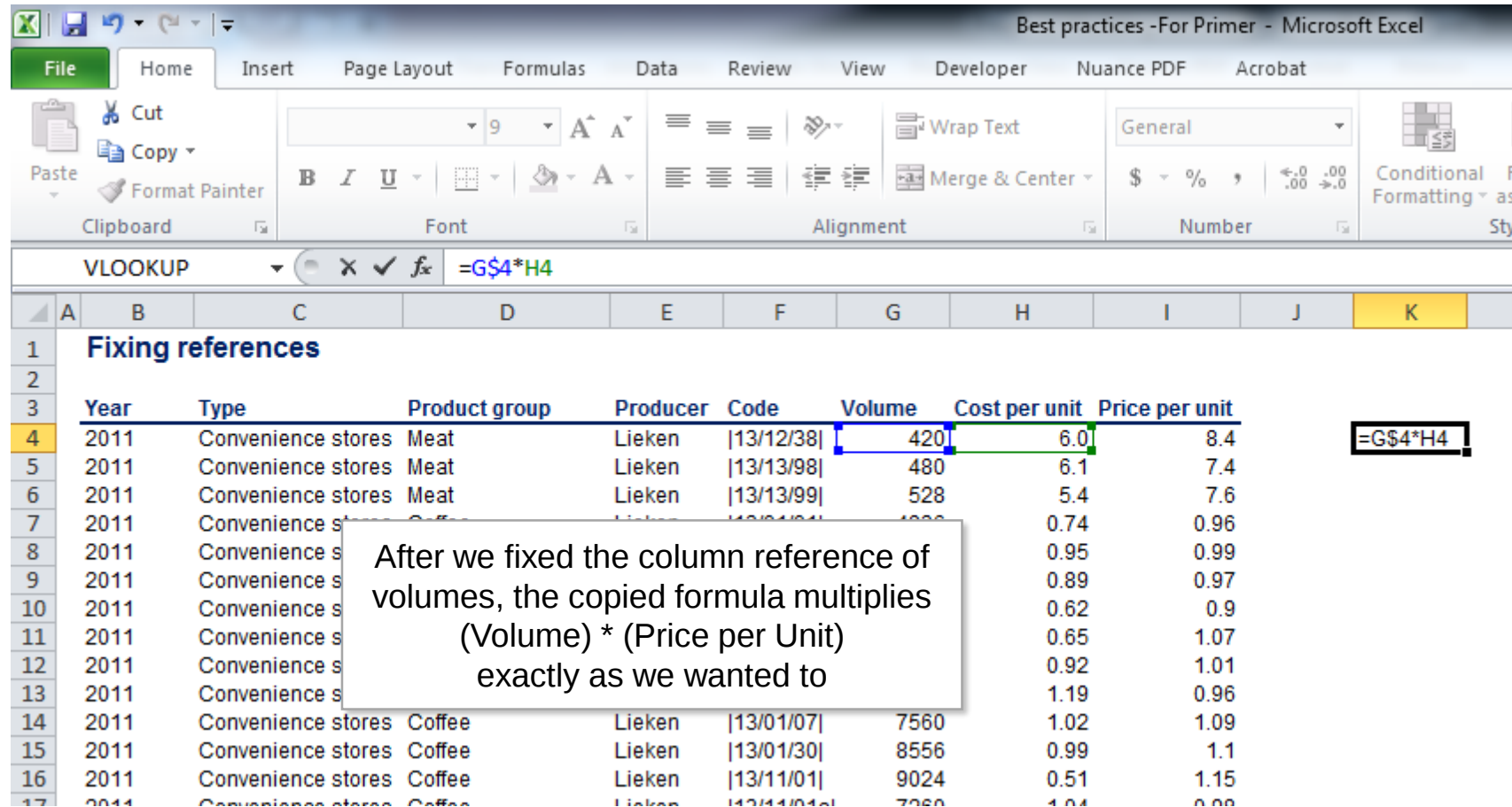
Clipboard Font Alignment Number Styles Cells

VLOOKUP $\times$ $\checkmark$ f_x $=\$G4*I4$

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Fixing references														
2															
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit						
4		2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4		2528.4	$=\$G4*I4$			
5		2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4						
6		2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6						
7		2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.98						
8		2011	Convenience stores	Coffee	Lieken	[13/01/01a]	5928								
9		2011	Convenience stores	Coffee	Lieken	[13/01/02]	5712								
10		2011	Convenience stores	Coffee	Lieken	[13/01/03]	4872								
11		2011	Convenience stores	Coffee	Lieken	[13/01/04]	6228								
12		2011	Convenience stores	Coffee	Lieken	[13/01/05]	9588								
13		2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836								
14		2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560								
15		2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556								
16		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15						
17		2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98						
18		2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17						
19		2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91						
20		2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13						

After we fixed the column reference of volumes, the copied formula multiplies (Volume) * (Price per Unit) exactly as we wanted to

Fixing references



Best practices -For Primer - Microsoft Excel

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Clipboard Font Alignment Number Conditional Formatting

VLOOKUP $\times$ $\checkmark$ f_x =G\$4*H4

	A	B	C	D	E	F	G	H	I	J	K
1	Fixing references										
2											
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit		
4		2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4		=G\$4*H4
5		2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4		
6		2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6		
7		2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	0.74	0.96		
8		2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.95	0.99		
9		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.89	0.97		
10		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.62	0.9		
11		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.65	1.07		
12		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.92	1.01		
13		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	1.19	0.96		
14		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	1.02	1.09		
15		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.99	1.1		
16		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15		
17		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	1.04	0.98		

After we fixed the column reference of volumes, the copied formula multiplies (Volume) * (Price per Unit) exactly as we wanted to

Fixing references

Best practices - For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Cut Copy Paste Format Painter Clipboard

Font

Alignment

Number

Styles

VLOOKUP     =G\$4*H4

	A	B	C	D	E	F	G	H	I	J	K	L
1		Fixing references										
2												
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit			
4		2011	Convenience stores	Meat	Lieken	13/12/38	420	6.0	8.4		=G\$4*H4	
5		2011	Convenience stores	Meat	Lieken	13/13/98	480	6.1	7.4			
6		2011	Convenience stores	Meat	Lieken	13/13/99	528	5.4	7.6			
7		2011	Convenience stores	Coffee	Lieken	13/01/01	4836	0.74	0.96			
8		2011	Convenience stores	Coffee	Lieken	13/01/01a	5928	0.95	0.99			
9		2011	Convenience stores	Coffee					0.97			
10		2011	Convenience stores	Coffee					0.9			
11		2011	Convenience stores	Coffee					1.07			
12		2011	Convenience stores	Coffee					1.01			
13		2011	Convenience stores	Coffee	Lieken	13/01/06	7836	1.19	0.96			
14		2011	Convenience stores	Coffee	Lieken	13/01/07	7560	1.02	1.09			
15		2011	Convenience stores	Coffee	Lieken	13/01/30	8556	0.99	1.1			
16		2011	Convenience stores	Coffee	Lieken	13/11/01	9024	0.51	1.15			
17		2011	Convenience stores	Coffee	Lieken	13/11/01a	7280	1.04	0.98			

We can also fix row references

Fixing references

Best practices - For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles

VLOOKUP X ✓ fx =G\$4*H5

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Fixing references												
2													
3		Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit				
4		2011	Convenience stores	Meat	Lieken	[13/12/38]	420	6.0	8.4		2528.4		
5		2011	Convenience stores	Meat	Lieken	[13/13/98]	480	6.1	7.4		=G\$4*H5		
6		2011	Convenience stores	Meat	Lieken	[13/13/99]	528	5.4	7.6				
7		2011	Convenience stores	Coffee	Lieken	[13/01/01]	4836	0.74	0.96				
8		2011	Convenience stores	Coffee	Lieken	[13/01/01a]	5928	0.95	0.99				
9		2011	Convenience stores	Coffee	Lieken	[13/01/02]	5712						
10		2011	Convenience stores	Coffee	Lieken	[13/01/03]	4872						
11		2011	Convenience stores	Coffee	Lieken	[13/01/04]	6228						
12		2011	Convenience stores	Coffee	Lieken	[13/01/05]	9588						
13		2011	Convenience stores	Coffee	Lieken	[13/01/06]	7836						
14		2011	Convenience stores	Coffee	Lieken	[13/01/07]	7560	1.02	1.09				
15		2011	Convenience stores	Coffee	Lieken	[13/01/30]	8556	0.99	1.1				
16		2011	Convenience stores	Coffee	Lieken	[13/11/01]	9024	0.51	1.15				
17		2011	Convenience stores	Coffee	Lieken	[13/11/01a]	7260	1.04	0.98				
18		2011	Convenience stores	Coffee	Lieken	[13/11/02]	9456	0.85	1.17				
19		2011	Convenience stores	Coffee	Lieken	[13/11/03]	7488	1.19	0.91				
20		2011	Convenience stores	Coffee	Lieken	[13/11/04]	7176	0.56	1.13				
21		2011	Convenience stores	Coffee	Lieken	[13/12/01]	7140	0.72	0.91				
22		2011	Convenience stores	Coffee	Lieken	[13/12/02]	6996	1.2	0.94				
23		2011	Convenience stores	Coffee	Lieken	[13/12/03]	4836	1.18	0.96				
24		2011	Convenience stores	Coffee	Lieken	[13/12/04]	8868	0.5	1.01				
25		2011	Convenience stores	Coffee	Lieken	[13/12/05]	5404	0.88	1.11				

When we copy the formula downwards, we can see that the Volume cell remained on the 4th row

Text to columns

Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Clipboard Font Alignment Number Styles Cells Editing

B3 Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP

Text to columns

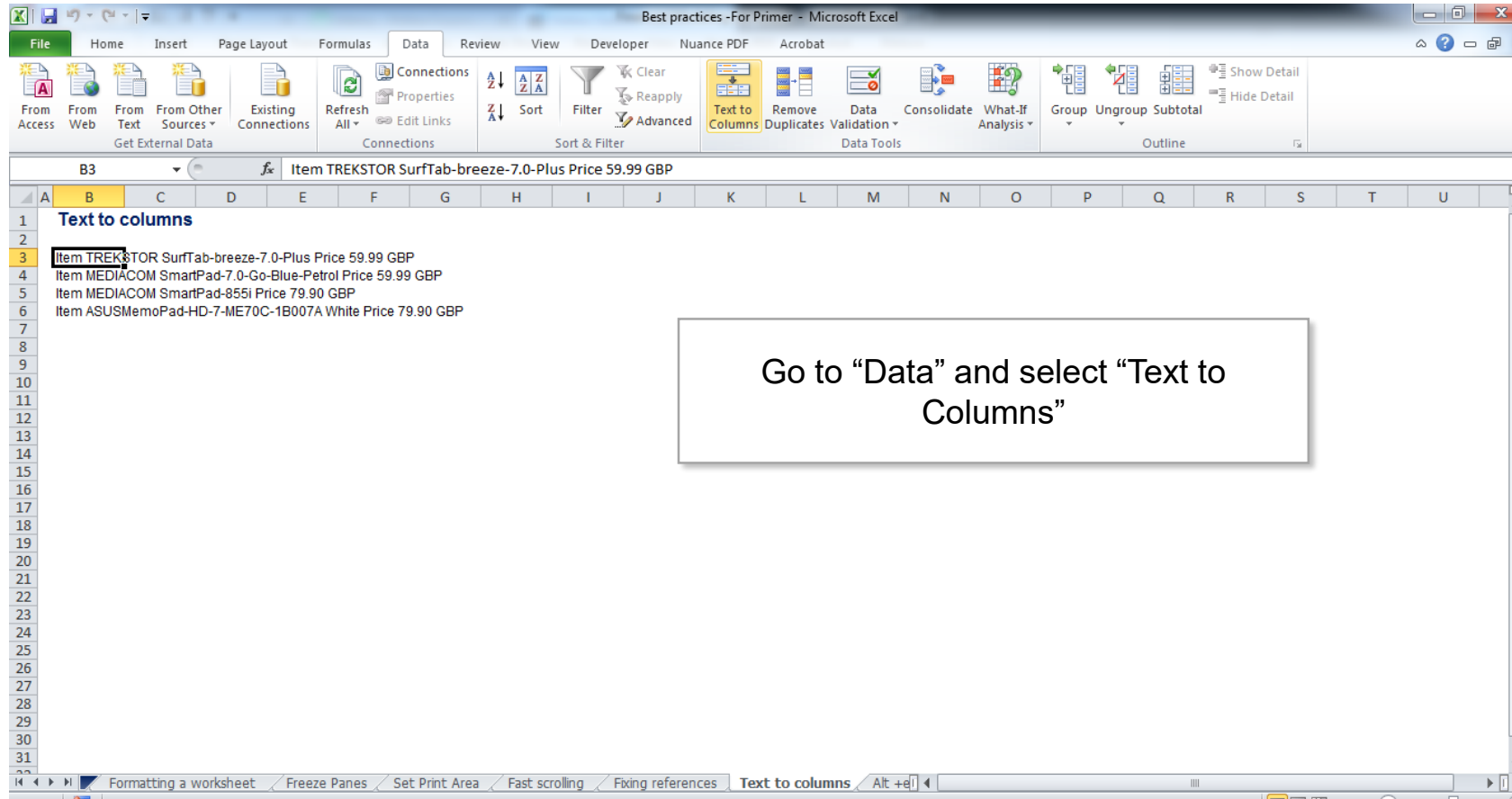
Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP
Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price 59.99 GBP
Item MEDIACOM SmartPad-855i Price 79.90 GBP
Item ASUSMemoPad-HD-7-ME70C-1B007A White Price 79.90 GBP

When we have text in cells which is difficult to elaborate “Text to columns” comes in hand

Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Text to columns Alt +d

Ready 100%

Text to columns



Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

From Access From Web From Text From Other Sources Existing Connections Refresh All Edit Links Connections Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

B3 Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP

Text to columns

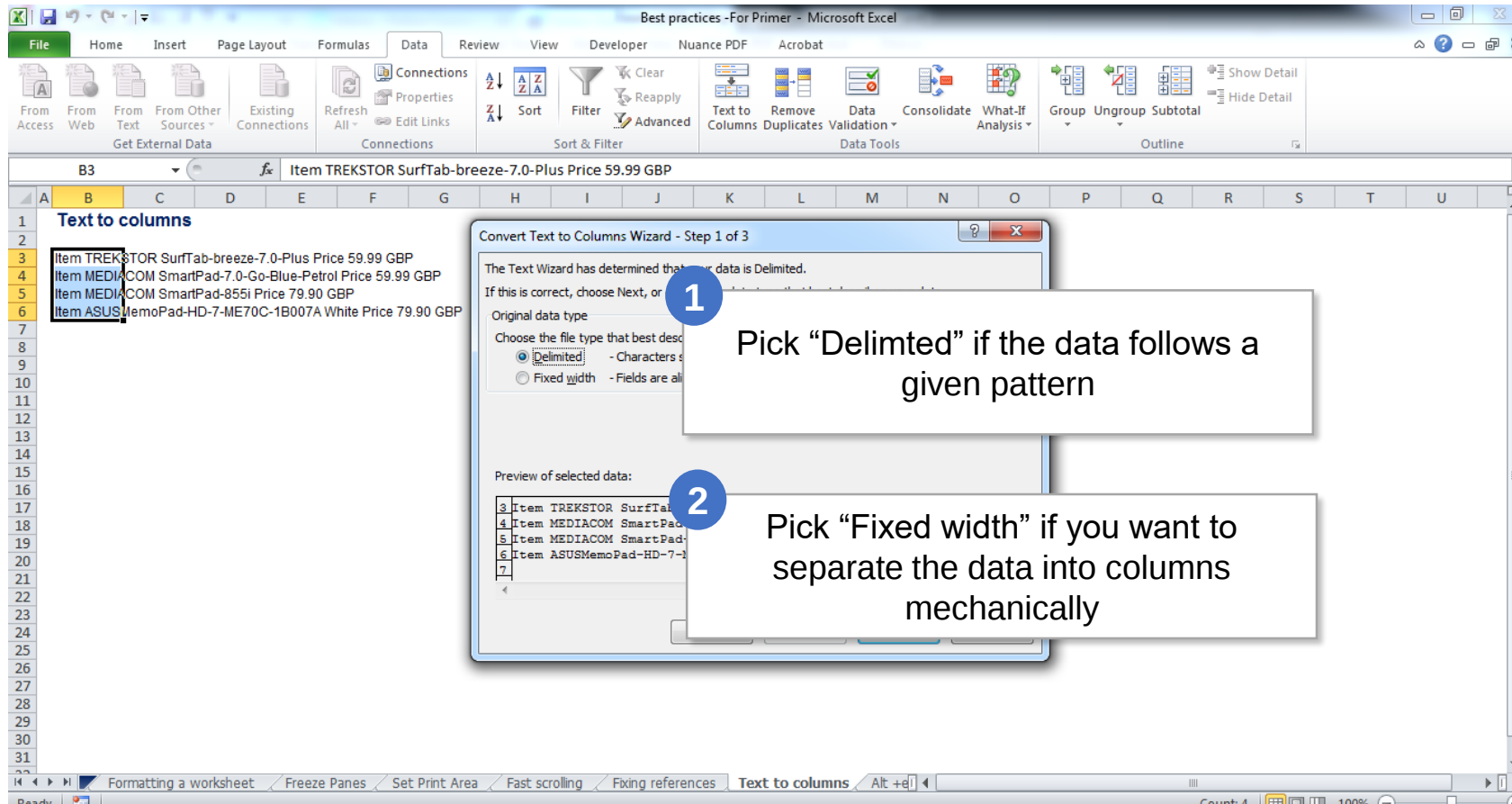
Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP
Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price 59.99 GBP
Item MEDIACOM SmartPad-855i Price 79.90 GBP
Item ASUSMemoPad-HD-7-ME70C-1B007A White Price 79.90 GBP

Go to "Data" and select "Text to Columns"

Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Text to columns Alt + e

Text to columns

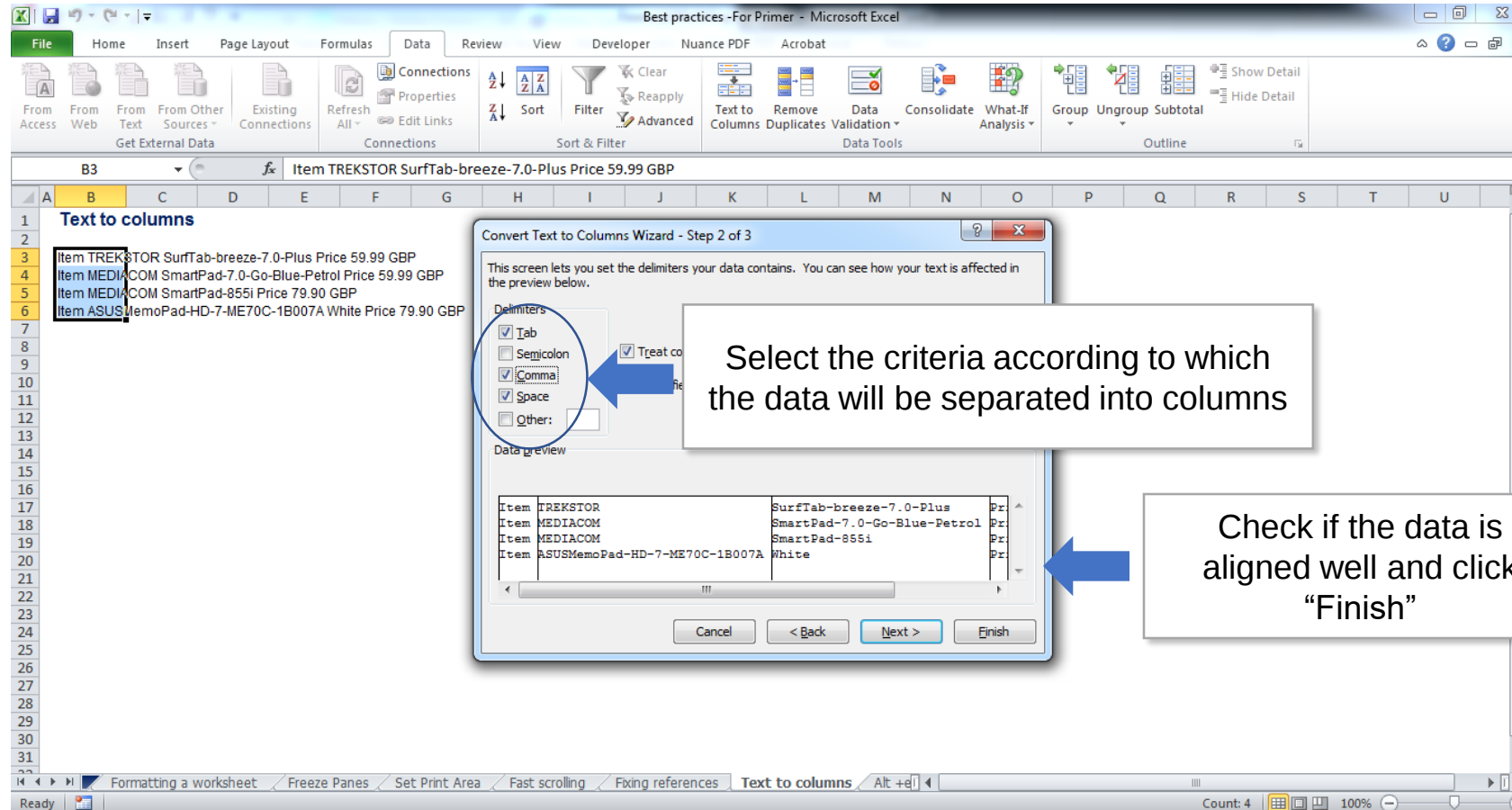
365  Careers



The screenshot shows the Microsoft Excel interface with the 'Text to columns' wizard open. The wizard is at Step 1 of 3, titled 'Convert Text to Columns Wizard - Step 1 of 3'. It displays the 'Original data type' section with two options: 'Delimited' (selected) and 'Fixed width'. A callout box with a blue circle containing the number '1' points to the 'Delimited' option and contains the text: 'Pick "Delimited" if the data follows a given pattern'. Below this, there is a 'Preview of selected data' section showing a table of product information. A second callout box with a blue circle containing the number '2' points to the 'Fixed width' option and contains the text: 'Pick "Fixed width" if you want to separate the data into columns mechanically'. The background Excel window shows a worksheet with the following data in column B:

	B
1	Text to columns
2	
3	Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP
4	Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price 59.99 GBP
5	Item MEDIACOM SmartPad-855i Price 79.90 GBP
6	Item ASUS MemoPad-HD-7-ME70C-1B007A White Price 79.90 GBP

Text to columns



Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

From Access From Web From Text From Other Sources Existing Connections Refresh All Edit Links Connections Sort Filter Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail

B3 Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP

Text to columns

Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP
Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price 59.99 GBP
Item MEDIACOM SmartPad-855i Price 79.90 GBP
Item ASUSMemoPad-HD-7-ME70C-1B007A White Price 79.90 GBP

Convert Text to Columns Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

- ☒ Tab
- ☐ Semicolon
- ☒ Comma
- ☒ Space
- ☐ Other:

☒ Treat consecutive spaces as one delimiter

Data preview

Item	TREKSTOR	SurfTab-breeze-7.0-Plus	Pr
Item	MEDIACOM	SmartPad-7.0-Go-Blue-Petrol	Pr
Item	MEDIACOM	SmartPad-855i	Pr
Item	ASUSMemoPad-HD-7-ME70C-1B007A	White	Pr

Cancel < Back Next > Finish

Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Text to columns Alt +E1

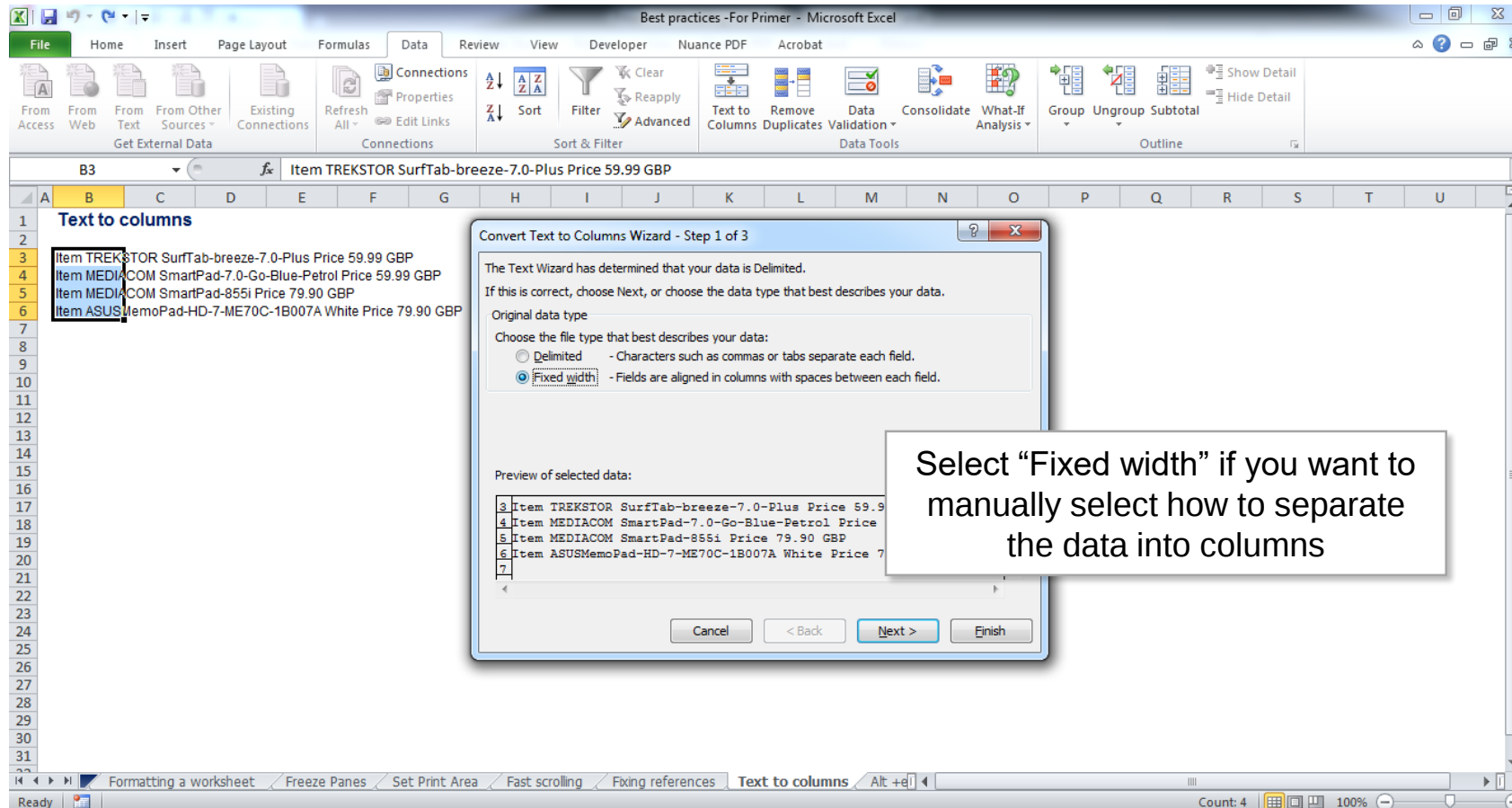
Count: 4 100%

Text to columns

The screenshot shows the Microsoft Excel interface with the 'Data' ribbon selected. The 'Text to columns' button is highlighted in the 'Data Tools' group. A text box on the right states: 'The data is well organized into columns'.

Item	Price
TREKSTOR	59.99 GBP
MEDIACOM	59.99 GBP
MEDIACOM	79.9 GBP
ASUSMemoPad-HD-7-ME70C-1B007A	79.9 GBP

Text to columns



Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

B3 Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP

Text to columns

Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP
Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price 59.99 GBP
Item MEDIACOM SmartPad-855i Price 79.90 GBP
Item ASUSMemoPad-HD-7-ME70C-1B007A White Price 79.90 GBP

Convert Text to Columns Wizard - Step 1 of 3

The Text Wizard has determined that your data is Delimited.
If this is correct, choose Next, or choose the data type that best describes your data.

Original data type

Choose the file type that best describes your data:

☐ Delimited - Characters such as commas or tabs separate each field.
☒ Fixed width - Fields are aligned in columns with spaces between each field.

Preview of selected data:

3	Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.9
4	Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price
5	Item MEDIACOM SmartPad-855i Price 79.90 GBP
6	Item ASUSMemoPad-HD-7-ME70C-1B007A White Price 7
7	

Select "Fixed width" if you want to manually select how to separate the data into columns

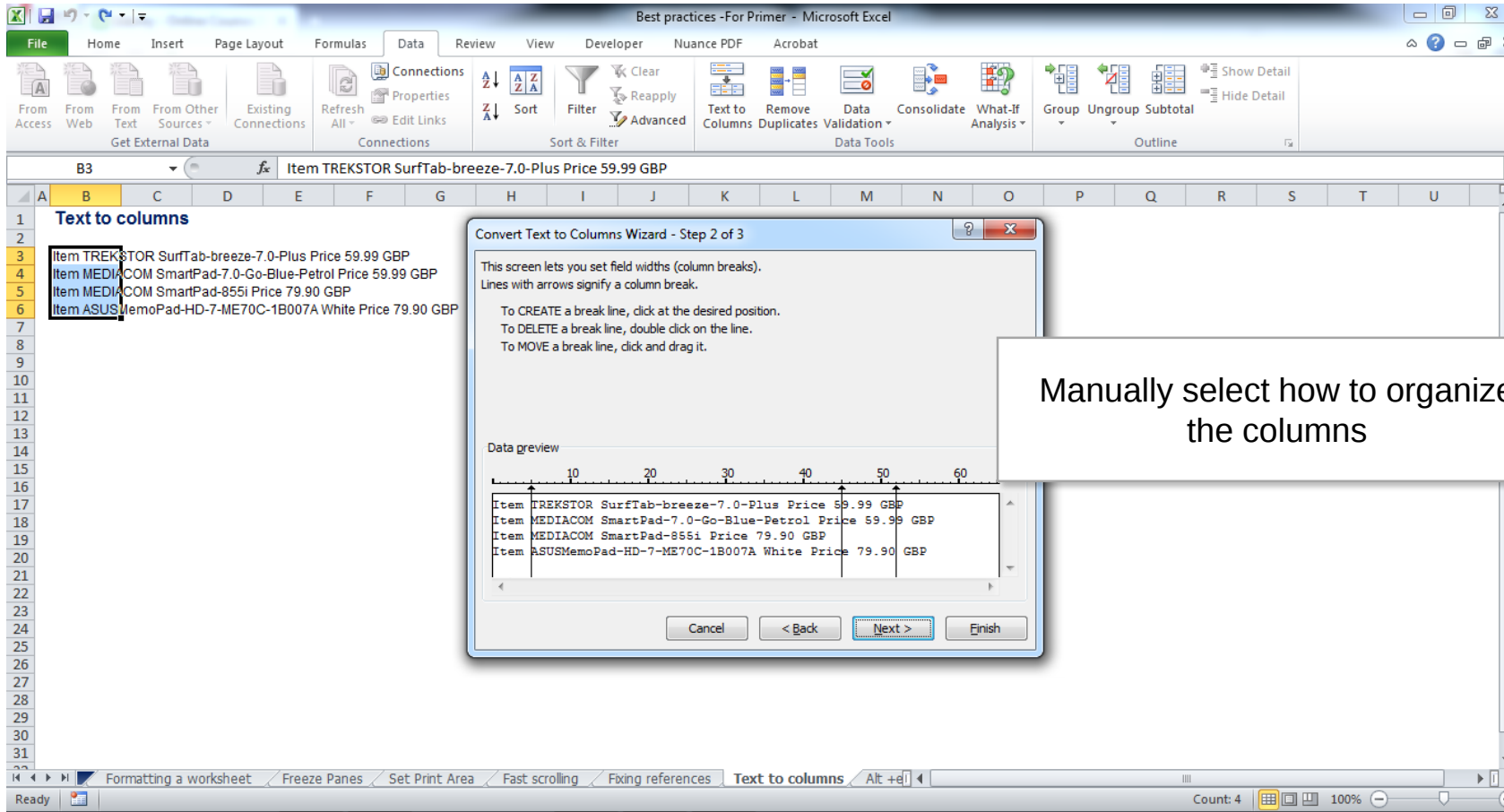
Cancel < Back Next > Finish

Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Text to columns Alt +E

Count: 4 100%

Text to columns

365  Careers



Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

From Access From Web From Text From Other Sources Existing Connections Refresh All Connections Sort Filter Reapply Clear Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail

B3 Item TREKSTOR SurfTab-breeze-7.0-Plus Price 59.99 GBP

Text to columns

Convert Text to Columns Wizard - Step 2 of 3

This screen lets you set field widths (column breaks).
Lines with arrows signify a column break.

To CREATE a break line, click at the desired position.
To DELETE a break line, double click on the line.
To MOVE a break line, click and drag it.

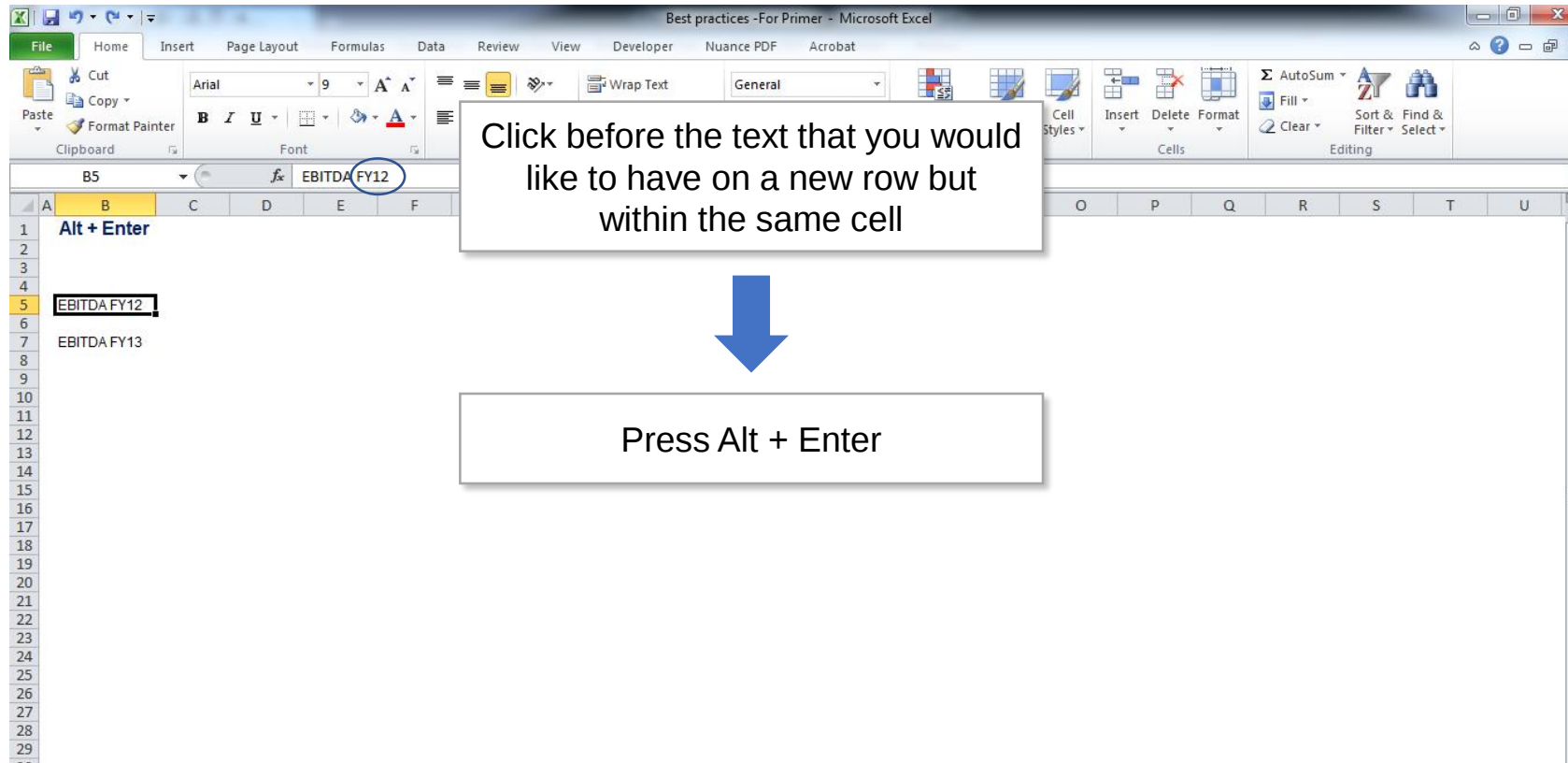
Data preview

10	20	30	40	50	60
Item TREKSTOR SurfTab-breeze-7.0-Plus Price	59.99	GBP			
Item MEDIACOM SmartPad-7.0-Go-Blue-Petrol Price	59.99	GBP			
Item MEDIACOM SmartPad-855i Price	79.90	GBP			
Item ASUSMemoPad-HD-7-ME70C-1B007A White Price	79.90	GBP			

Manually select how to organize the columns

Cancel < Back Next > Finish

Formatting a worksheet Freeze Panes Set Print Area Fast scrolling Fixing references Text to columns Alt +> Count: 4 100%

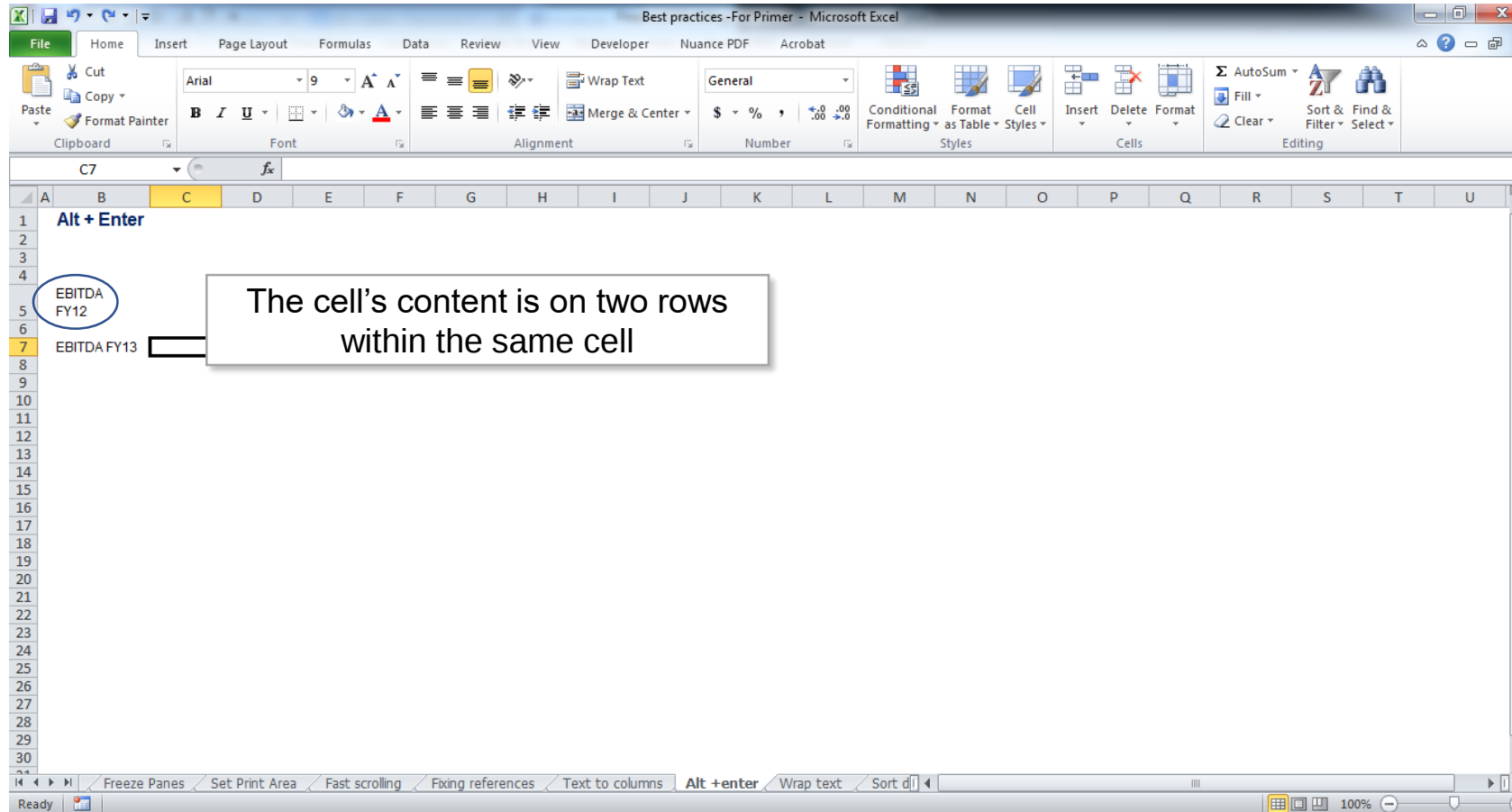


The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The ribbon includes options for Clipboard, Font, Paragraph, Styles, Cells, and Editing. In the worksheet, cell B5 is selected and contains the text 'EBITDA FY12'. A blue circle highlights the end of the text in the formula bar. A text box with an arrow points to the instruction 'Press Alt + Enter'. Below the worksheet, a list of rows is visible, with row 5 highlighted and containing 'EBITDA FY12', and row 7 containing 'EBITDA FY13'.

Click before the text that you would like to have on a new row but within the same cell

Press Alt + Enter

Alt + Enter



Wrap text

Best practices -For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Clipboard Font Alignment Number Styles Cells Editing

Wrap Text

Make all content visible within a cell by displaying it on multiple lines.

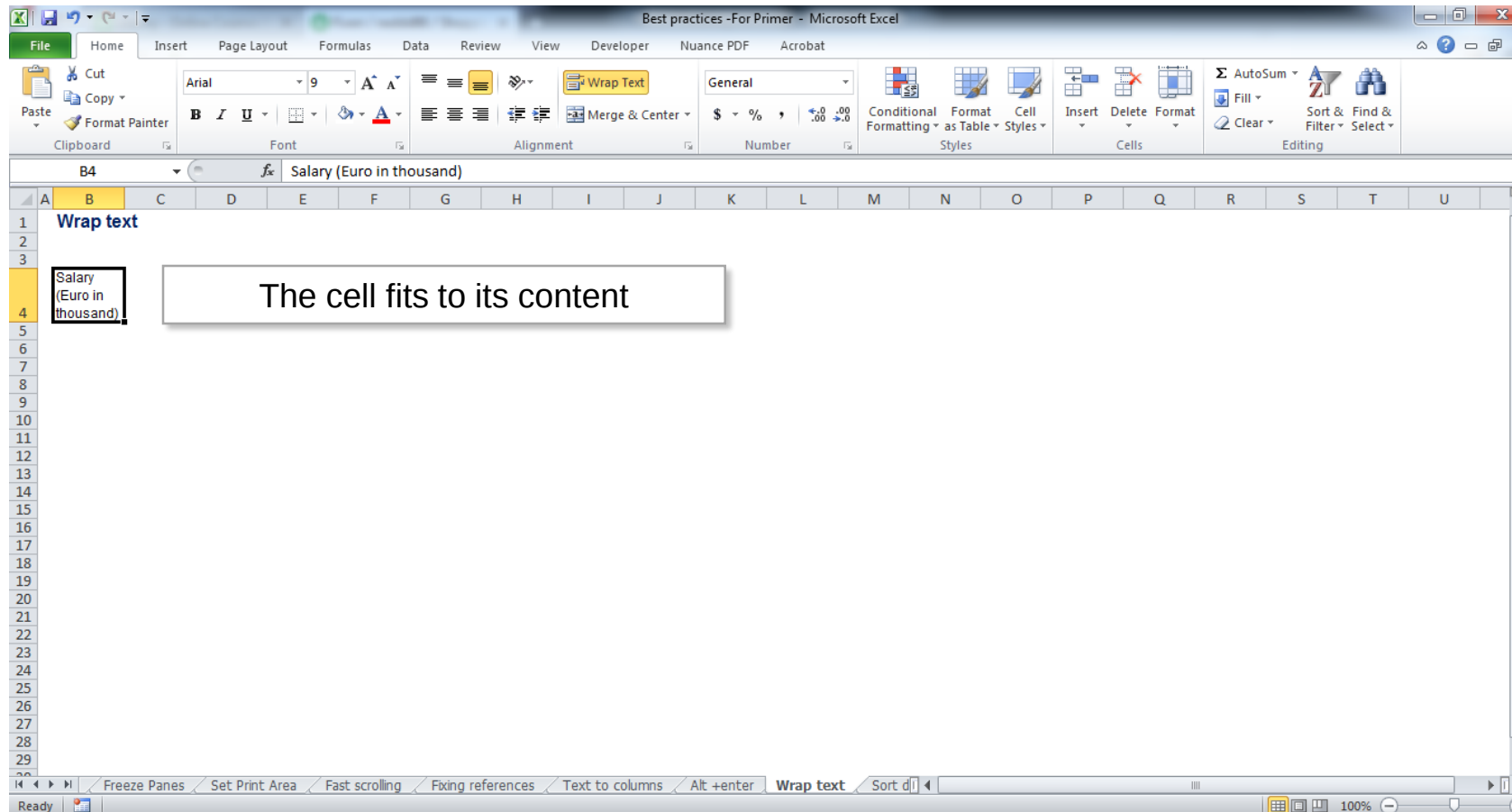
Press F1 for more help.

If the text content of a cell leaves its borders, use "Wrap text" in order to adjust the row size and fit the text within the cell

Salary (Euro in thousand)

Ready

Wrap text



Custom sort

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. A table titled 'Sort data' is displayed in the worksheet. The table has columns for Year, Type, Product group, Producer, Code, Volume, Cost per unit, and Price per unit. The data is sorted by the 'Code' column in ascending order. A text box on the right side of the worksheet contains the following text:

If you would like to sort a table according to one of its columns you could use "Custom Sort"

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Meat	J&F	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Coffee	J&F	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Coffee	J&F	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	0.92	1.01

Custom sort

The screenshot shows the Microsoft Excel interface with a data table. The 'Home' tab is selected in the ribbon. The 'Sort & Filter' button in the 'Cells' group is highlighted, and its dropdown menu is open, showing options: 'Sort Smallest to Largest', 'Sort Largest to Smallest', 'Custom Sort...', 'Filter', 'Clear', and 'Reapply'. The data table is as follows:

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Meat	J&F	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Coffee	J&F	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Coffee	J&F	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	0.92	1.01

Annotations:

- 1 Select the whole table
- 2 Go to the "Home" menu and select "Custom Sort"

Best practices - For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Sort data

Year	Type	Product group	Producer	Code	Volume
2011	Convenience stores	Coffee	J&F	13/01/06	
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Meat	J&F		
2011	Convenience stores	Meat	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Meat	J&F		
2011	Convenience stores	Coffee	J&F		
2011	Convenience stores	Coffee	J&F		

In the dialog box which opens we can select:

1 Column according to which to sort by

2 Criteria

3 How to order the data

Sort

Sort by: Volume

Sort On: Values

Order: Largest to Smallest

OK Cancel

Sort data Select special Data validation Dynamic naming Custom Formatting Creating a Macro Naming rang

Ready Average: 1806.958611 Count: 104 Sum: 86734.01333 100%

Custom sort

The screenshot shows the Microsoft Excel interface with a table titled "Sort data". The table is sorted by the "Volume" column in descending order. A callout box points to the "Volume" column with the text: "The table is sorted by each row's Volume figure".

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee	J&F	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Meat	J&F	[13/13/99]	528	5.4	7.6
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4

Select special

The screenshot shows the Microsoft Excel interface with the 'Home' tab selected. The ribbon includes options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The active cell is K18. A table of data is displayed in the worksheet, starting from row 4, column A. The table has 8 columns: Year, Type, Product gr, Producer, Code, Volume, Cost per unit, and Price per unit. The data rows are numbered 5 to 16. A text box on the right side of the worksheet contains the following text:

If you want to select cells in a given range/table according to a criterion you can do the following

Below the text box, there is a small rectangular box with a red border, indicating the selection of a specific cell or range.

Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat		[13/13/99]			
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Coffee	n.a.	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee		[13/01/03]			
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1

Select special

The screenshot shows the Microsoft Excel interface with a table of data. The table has columns: Year, Type, Product gr, Producer, Code, Volume, Cost per unit, and Price per unit. The data is for the year 2011, showing various convenience stores and their products. A 'Go To' dialog box is open, showing the reference 'Index --> !C10'. The 'Special...' button is highlighted with a red circle.

1 Select the whole table

2 Click F5

3 Click on "Special"

Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	[13/12/38]	420		
2011	Convenience stores	Meat	J&F	[13/13/98]	480		
2011	Convenience stores	Meat	J&F	[13/13/99]			
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836		
2011	Convenience stores	Coffee	n.a.	[13/01/01a]	5928		
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712		
2011	Convenience stores	Coffee	J&F	[13/01/03]			
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228		
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588		
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836		
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560		
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556		

Select special

365 Careers

Best practices -For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Select special

Year	Type	Product gr	Producer	Code	Volume	Cost per unit
2011	Convenience stores	Meat	J&F	[13/12/38]	420	
2011	Convenience stores	Meat	J&F	[13/13/98]	480	
2011	Convenience stores	Meat	J&F	[13/13/99]		
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	
2011	Convenience stores	Coffee	n.a.	[13/01/01a]	5928	
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	
2011	Convenience stores	Coffee	J&F	[13/01/03]		
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	

Go To Special

Select

- ☐ Comments
- ☐ Constants
- ☐ Formulas
 - ☒ Numbers
 - ☒ Text
 - ☒ Logicals
 - ☒ Errors
 - ☒ Blanks
- ☐ Current region
- ☐ Current array
- ☐ Objects
- ☐ Row differences
- ☐ Column differences
- ☐ Precedents
- ☐ Dependents
 - ☒ Direct only
 - ☐ All levels
- ☐ Last cell
- ☐ Visible cells only
- ☐ Conditional formats
- ☐ Data validation
 - ☒ All
 - ☐ Same

OK Cancel

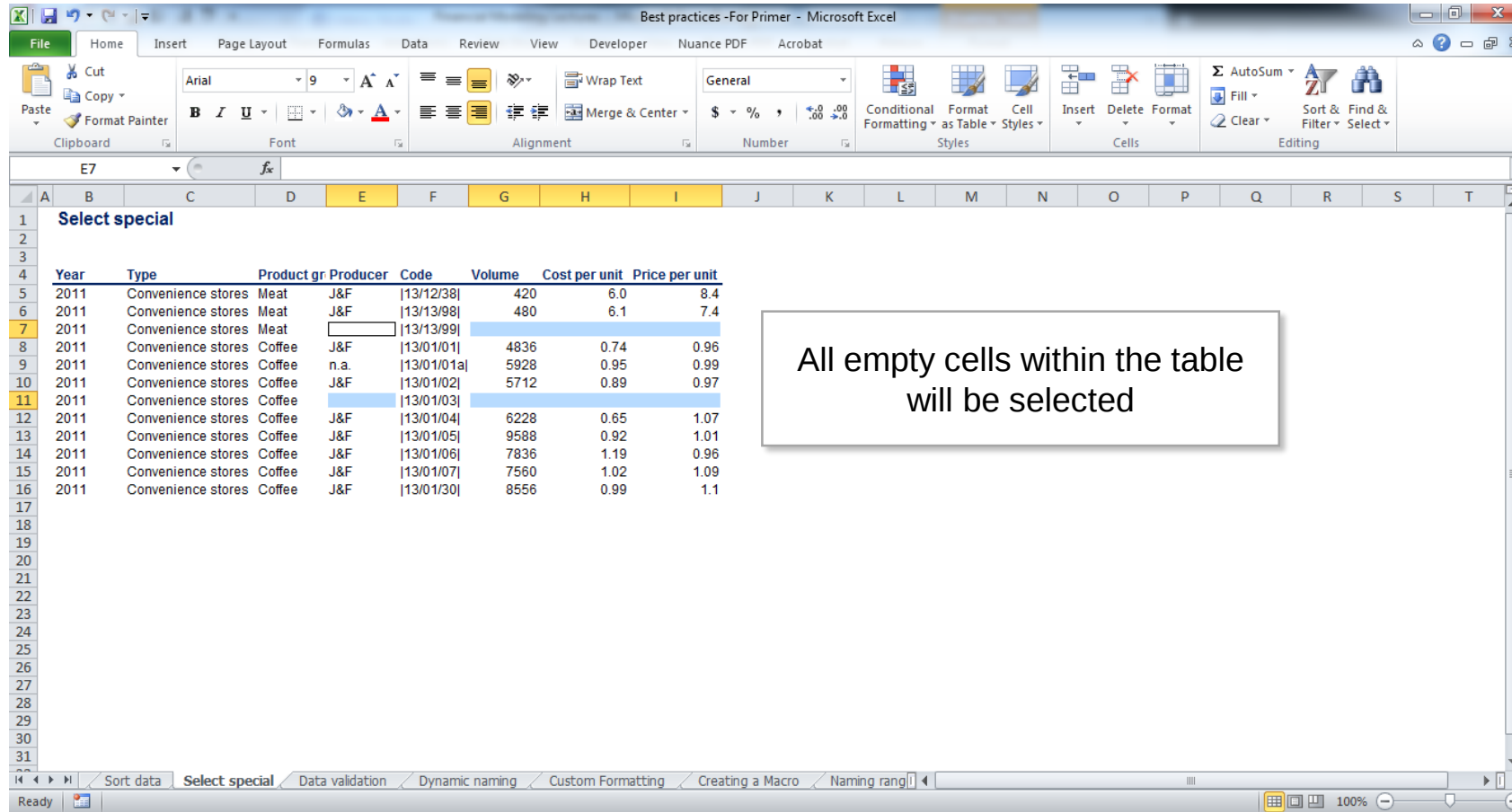
Choose a criteria according to which you would like to select cells within the table

For example if we select "Blanks"

Sort data Select special Data validation Dynamic naming Custom Formatting Creating a Macro Naming range

Ready Average: 1936.17873 Count: 96 Sum: 81319.50667 100%

Select special



Best practices -For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

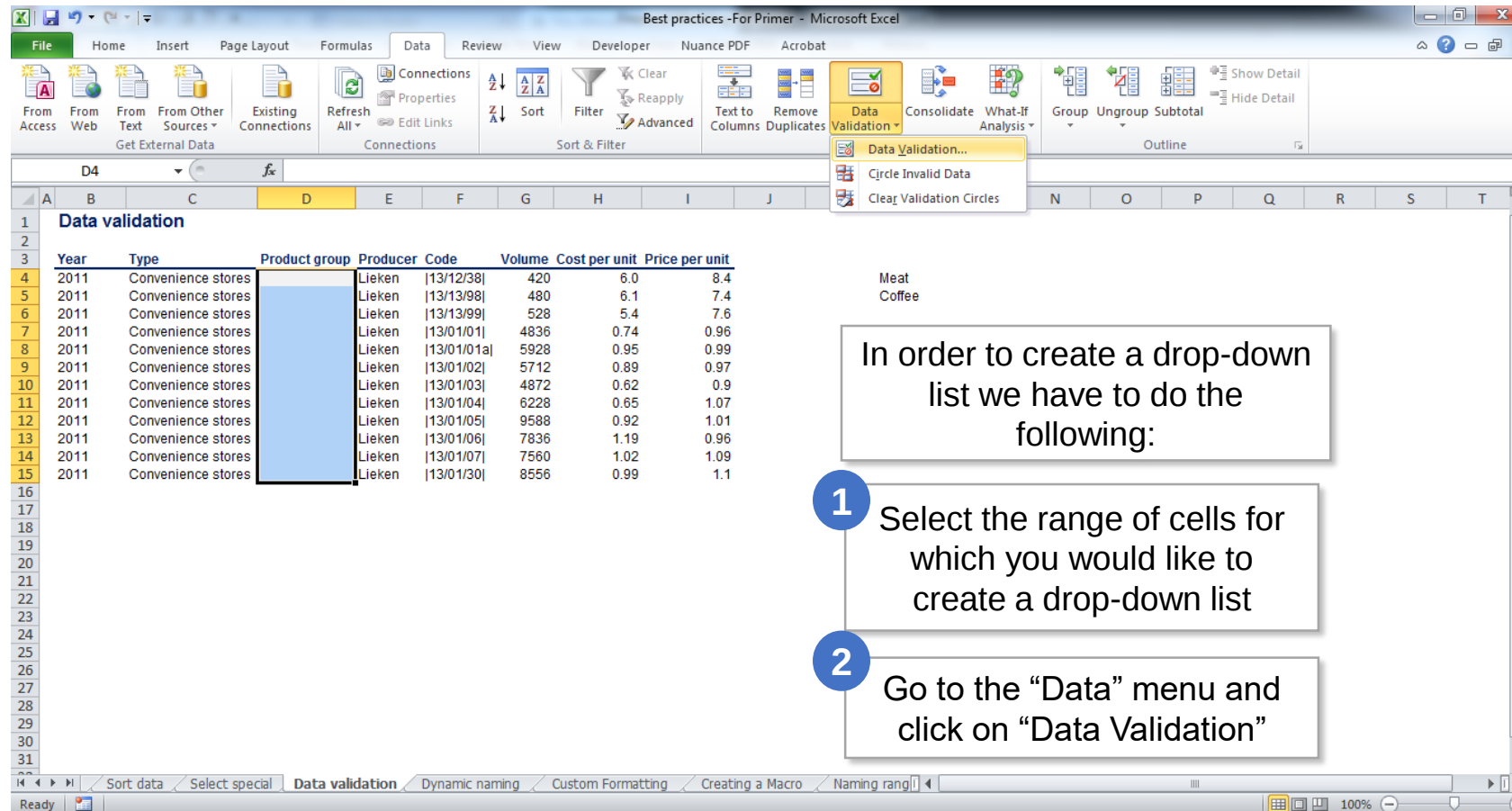
E7

Select special

Year	Type	Product gr	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Meat	J&F	[13/12/38]	420	6.0	8.4
2011	Convenience stores	Meat	J&F	[13/13/98]	480	6.1	7.4
2011	Convenience stores	Meat		[13/13/99]			
2011	Convenience stores	Coffee	J&F	[13/01/01]	4836	0.74	0.96
2011	Convenience stores	Coffee	n.a.	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Coffee	J&F	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Coffee		[13/01/03]			
2011	Convenience stores	Coffee	J&F	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Coffee	J&F	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Coffee	J&F	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Coffee	J&F	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Coffee	J&F	[13/01/30]	8556	0.99	1.1

All empty cells within the table will be selected

Ready



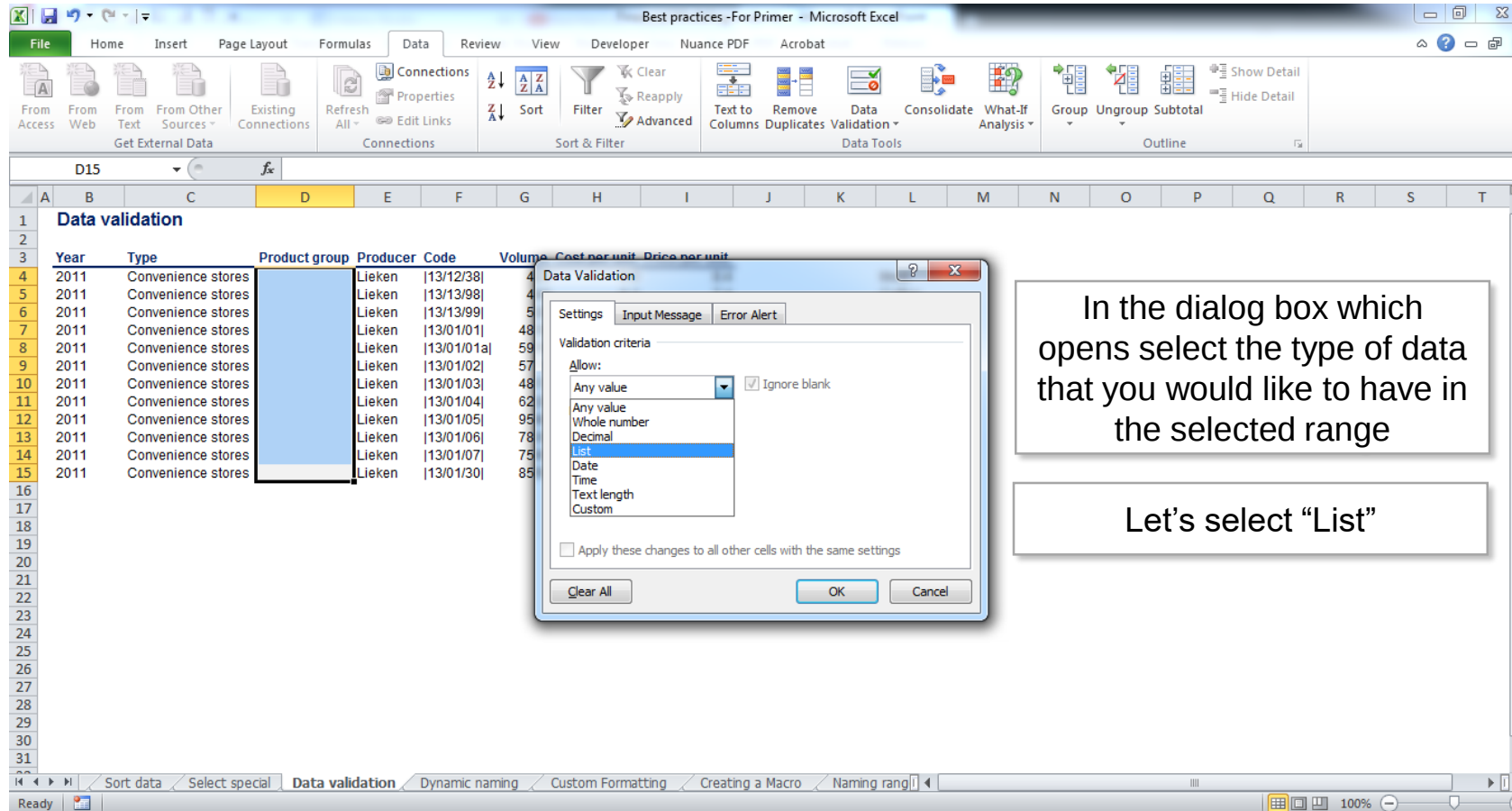
Data validation

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores		Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores		Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores		Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores		Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores		Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores		Lieken	[13/01/02]	5712	0.89	0.97
2011	Convenience stores		Lieken	[13/01/03]	4872	0.62	0.9
2011	Convenience stores		Lieken	[13/01/04]	6228	0.65	1.07
2011	Convenience stores		Lieken	[13/01/05]	9588	0.92	1.01
2011	Convenience stores		Lieken	[13/01/06]	7836	1.19	0.96
2011	Convenience stores		Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores		Lieken	[13/01/30]	8556	0.99	1.1

Meat
Coffee

In order to create a drop-down list we have to do the following:

- 1 Select the range of cells for which you would like to create a drop-down list
- 2 Go to the “Data” menu and click on “Data Validation”



Best practices -For Primer - Microsoft Excel

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From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

D15 fx

A B C D E F G H I J K L M N O P Q R S T

1 Data validation

2

3 Year Type Product group Producer Code Volume Cost per unit Price per unit

4 2011 Convenience stores Lieken [13/12/38] 4

5 2011 Convenience stores Lieken [13/13/98] 4

6 2011 Convenience stores Lieken [13/13/99] 5

7 2011 Convenience stores Lieken [13/01/01] 48

8 2011 Convenience stores Lieken [13/01/01a] 59

9 2011 Convenience stores Lieken [13/01/02] 57

10 2011 Convenience stores Lieken [13/01/03] 48

11 2011 Convenience stores Lieken [13/01/04] 62

12 2011 Convenience stores Lieken [13/01/05] 95

13 2011 Convenience stores Lieken [13/01/06] 78

14 2011 Convenience stores Lieken [13/01/07] 75

15 2011 Convenience stores Lieken [13/01/30] 85

16

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30

31

Ready Sort data Select special Data validation Dynamic naming Custom Formatting Creating a Macro Naming rang 100%

Data Validation

Settings Input Message Error Alert

Validation criteria

Allow:

Any value ☒ Ignore blank

Any value

Whole number

Decimal

List

Date

Time

Text length

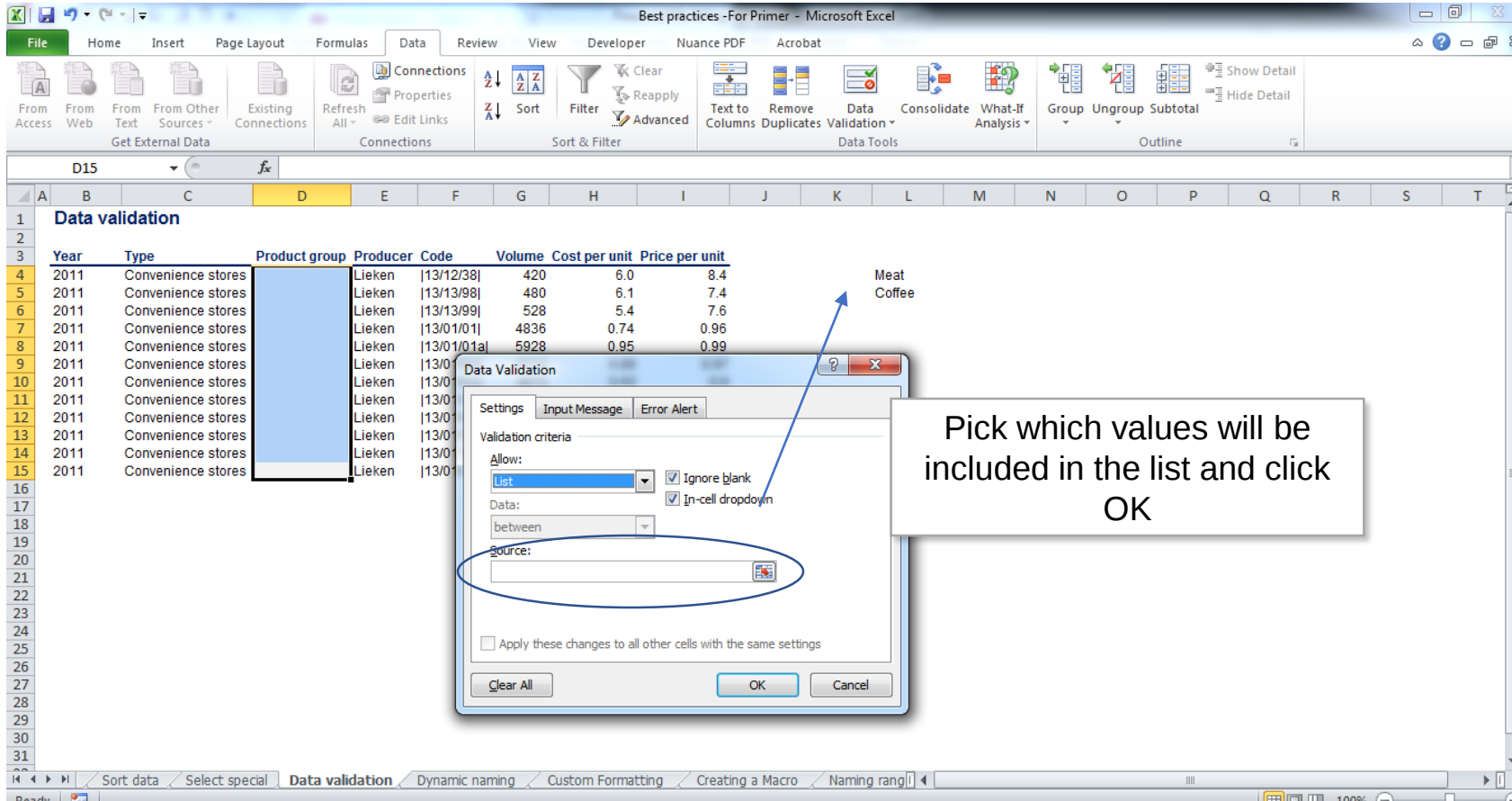
Custom

☐ Apply these changes to all other cells with the same settings

Clear All OK Cancel

In the dialog box which opens select the type of data that you would like to have in the selected range

Let's select "List"



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. A table is displayed in the worksheet with the following data:

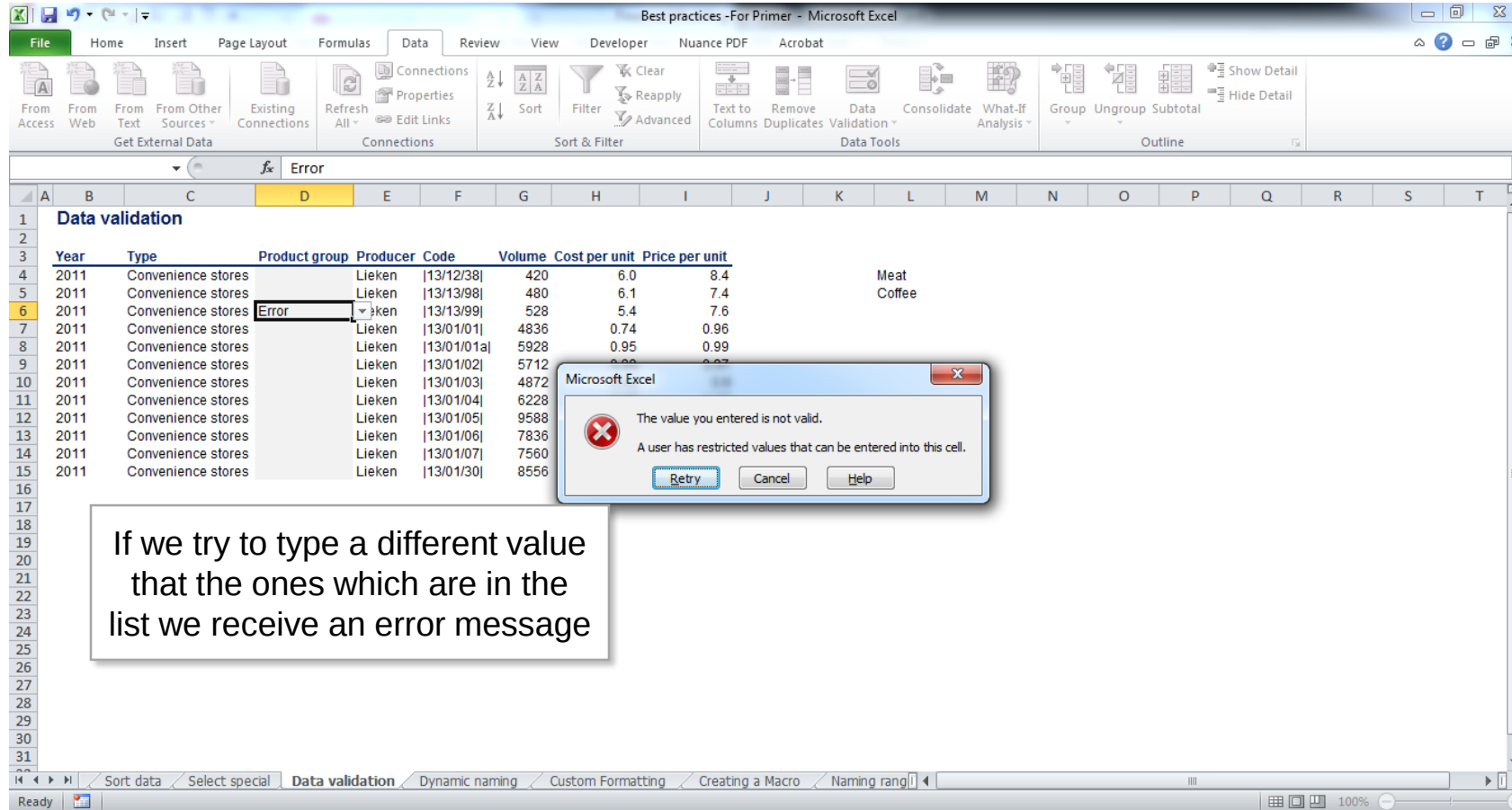
Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores		Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores		Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores		Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores		Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores		Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores		Lieken	[13/01/01b]			
2011	Convenience stores		Lieken	[13/01/01c]			
2011	Convenience stores		Lieken	[13/01/01d]			
2011	Convenience stores		Lieken	[13/01/01e]			
2011	Convenience stores		Lieken	[13/01/01f]			
2011	Convenience stores		Lieken	[13/01/01g]			
2011	Convenience stores		Lieken	[13/01/01h]			
2011	Convenience stores		Lieken	[13/01/01i]			
2011	Convenience stores		Lieken	[13/01/01j]			
2011	Convenience stores		Lieken	[13/01/01k]			
2011	Convenience stores		Lieken	[13/01/01l]			
2011	Convenience stores		Lieken	[13/01/01m]			
2011	Convenience stores		Lieken	[13/01/01n]			
2011	Convenience stores		Lieken	[13/01/01o]			
2011	Convenience stores		Lieken	[13/01/01p]			
2011	Convenience stores		Lieken	[13/01/01q]			
2011	Convenience stores		Lieken	[13/01/01r]			
2011	Convenience stores		Lieken	[13/01/01s]			
2011	Convenience stores		Lieken	[13/01/01t]			
2011	Convenience stores		Lieken	[13/01/01u]			
2011	Convenience stores		Lieken	[13/01/01v]			
2011	Convenience stores		Lieken	[13/01/01w]			
2011	Convenience stores		Lieken	[13/01/01x]			
2011	Convenience stores		Lieken	[13/01/01y]			
2011	Convenience stores		Lieken	[13/01/01z]			

The 'Data Validation' dialog box is open, showing the 'Settings' tab. The 'Allow' dropdown is set to 'List'. The 'Source' field is empty, and the 'In-cell dropdown' checkbox is checked. A text box with the text 'Pick which values will be included in the list and click OK' is overlaid on the dialog box. A blue arrow points from the text box to the 'Source' field.

Data validation

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The ribbon includes options for 'Connections', 'Sort & Filter', 'Data Tools', and 'Outline'. The worksheet 'Best practices -For Primer' is open, showing a table with columns: Year, Type, Product group, Producer, Code, Volume, Cost per unit, and Price per unit. A drop-down list is active in cell D4, showing the following options: Lieken, Meat, and Coffee. A text box with the text 'The drop-down list is ready' is overlaid on the table. The status bar at the bottom indicates 'Ready' and 'Data validation'.

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores	Lieken	[13/12/				
2011	Convenience stores	Meat	Lieken	[13/13/			
2011	Convenience stores	Coffee	Lieken	[13/13/			
2011	Convenience stores	Lieken	Lieken	[13/01/			
2011	Convenience stores	Lieken	Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores	Lieken	Lieken	[13/01/02]	5712	0.89	0.97
2011	Convenience stores	Lieken	Lieken	[13/01/03]	4872	0.62	0.9
2011	Convenience stores	Lieken	Lieken	[13/01/04]	6228	0.65	1.07
2011	Convenience stores	Lieken	Lieken	[13/01/05]	9588	0.92	1.01
2011	Convenience stores	Lieken	Lieken	[13/01/06]	7836	1.19	0.96
2011	Convenience stores	Lieken	Lieken	[13/01/07]	7560	1.02	1.09
2011	Convenience stores	Lieken	Lieken	[13/01/30]	8556	0.99	1.1



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The ribbon includes options like 'Connections', 'Sort & Filter', 'Data Tools', and 'Outline'. The worksheet 'Best practices -For Primer' contains a table with columns: Year, Type, Product group, Producer, Code, Volume, Cost per unit, Price per unit, and Meat Coffee. The 'Product group' column has a data validation rule that restricts values to a specific list. An error message dialog box is displayed over the table, stating: 'The value you entered is not valid. A user has restricted values that can be entered into this cell.' The dialog box has 'Retry', 'Cancel', and 'Help' buttons. A text box at the bottom of the screenshot explains the error.

Data validation

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit	Meat Coffee
2011	Convenience stores		Lieken	[13/12/38]	420	6.0	8.4	
2011	Convenience stores		Lieken	[13/13/98]	480	6.1	7.4	
2011	Convenience stores	Error	Lieken	[13/13/99]	528	5.4	7.6	
2011	Convenience stores		Lieken	[13/01/01]	4836	0.74	0.96	
2011	Convenience stores		Lieken	[13/01/01a]	5928	0.95	0.99	
2011	Convenience stores		Lieken	[13/01/02]	5712			
2011	Convenience stores		Lieken	[13/01/03]	4872			
2011	Convenience stores		Lieken	[13/01/04]	6228			
2011	Convenience stores		Lieken	[13/01/05]	9588			
2011	Convenience stores		Lieken	[13/01/06]	7836			
2011	Convenience stores		Lieken	[13/01/07]	7560			
2011	Convenience stores		Lieken	[13/01/30]	8556			

Microsoft Excel

The value you entered is not valid.
A user has restricted values that can be entered into this cell.

Retry Cancel Help

If we try to type a different value that the ones which are in the list we receive an error message

Data validation

Best practices -For Primer - Microsoft Excel

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From Access From Web From Text From Other Sources Get External Data Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Sort Filter Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Data Tools Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

D4

Data validation

Year	Type	Product group	Producer	Code	Volume	Cost per unit	Price per unit
2011	Convenience stores		Lieken	[13/12/38]	420	6.0	8.4
2011	Convenience stores		Lieken	[13/13/98]	480	6.1	7.4
2011	Convenience stores		Lieken	[13/13/99]	528	5.4	7.6
2011	Convenience stores		Lieken	[13/01/01]	4836	0.74	0.96
2011	Convenience stores		Lieken	[13/01/01a]	5928	0.95	0.99
2011	Convenience stores		Lieken	[13/01/01b]			
2011	Convenience stores		Lieken	[13/01/01c]			
2011	Convenience stores		Lieken	[13/01/01d]			
2011	Convenience stores		Lieken	[13/01/01e]			
2011	Convenience stores		Lieken	[13/01/01f]			
2011	Convenience stores		Lieken	[13/01/01g]			
2011	Convenience stores		Lieken	[13/01/01h]			
2011	Convenience stores		Lieken	[13/01/01i]			

Meat
Coffee

Data Validation

Settings Input Message Error Alert

☒ Show error alert after invalid data is entered

When user enters invalid data, show this error alert:

Style: Stop Title:

Error message:

Clear All OK Cancel

1 In order to remove the error message:

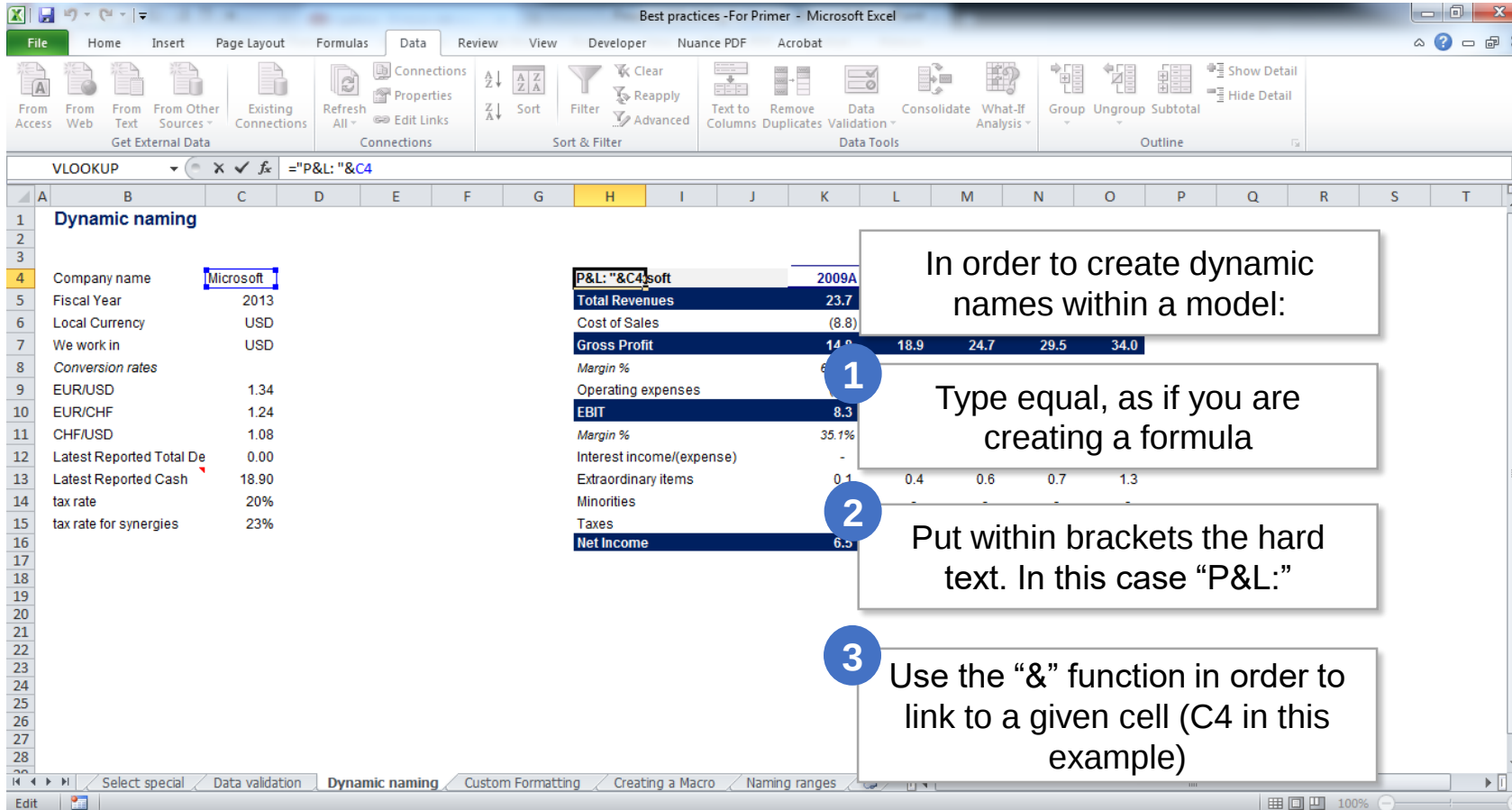
2 Go to "Data", "Data Validation"

3 Select the third tab within the dialog box, which opens

Unselect the box saying "Show error..."

Sort data Select special Data validation Dynamic naming Custom Formatting Creating a Macro Naming rang

Ready 100%



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The formula bar displays the formula `=P&L:"&C4`. The worksheet contains a table with company information and financial data. Three numbered annotations explain the components of the formula:

- 1** In order to create dynamic names within a model:
- 2** Type equal, as if you are creating a formula
- 3** Put within brackets the hard text. In this case "P&L."

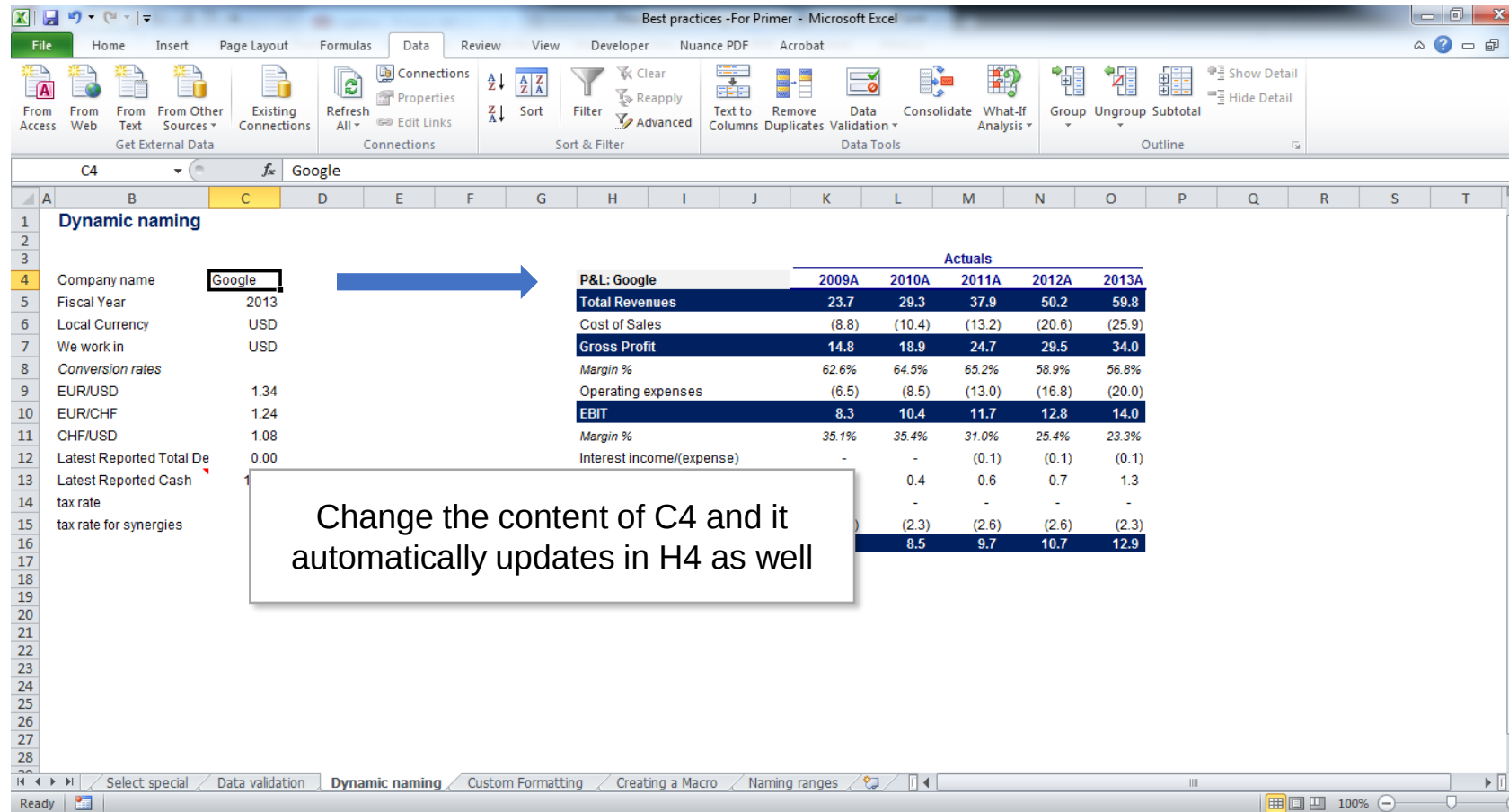
The formula bar shows the formula `=P&L:"&C4`. The worksheet contains the following data:

Company name	Fiscal Year	Local Currency	We work in	Conversion rates	EUR/USD	EUR/CHF	CHF/USD	Latest Reported Total De	Latest Reported Cash	tax rate	tax rate for synergies
Microsoft	2013	USD	USD		1.34	1.24	1.08	0.00	18.90	20%	23%

The financial data table is as follows:

P&L: "&C4	2009A				
Total Revenues	23.7				
Cost of Sales	(8.8)				
Gross Profit	14.9	18.9	24.7	29.5	34.0
Margin %					
Operating expenses					
EBIT	8.3				
Margin %	35.1%				
Interest income/(expense)	-				
Extraordinary items	0.1	0.4	0.6	0.7	1.3
Minorities					
Taxes					
Net Income	6.5				

Dynamic naming



The screenshot shows an Excel spreadsheet titled "Best practices -For Primer - Microsoft Excel". The "Data" tab is active, showing various data tools. The spreadsheet is divided into two main sections: a data entry section on the left and a P&L table on the right.

Data Entry Section (Columns A-C):

	A	B	C
1	Dynamic naming		
2			
3			
4	Company name		Google
5	Fiscal Year	2013	
6	Local Currency	USD	
7	We work in	USD	
8	Conversion rates		
9	EUR/USD	1.34	
10	EUR/CHF	1.24	
11	CHF/USD	1.08	
12	Latest Reported Total De	0.00	
13	Latest Reported Cash		
14	tax rate		
15	tax rate for synergies		

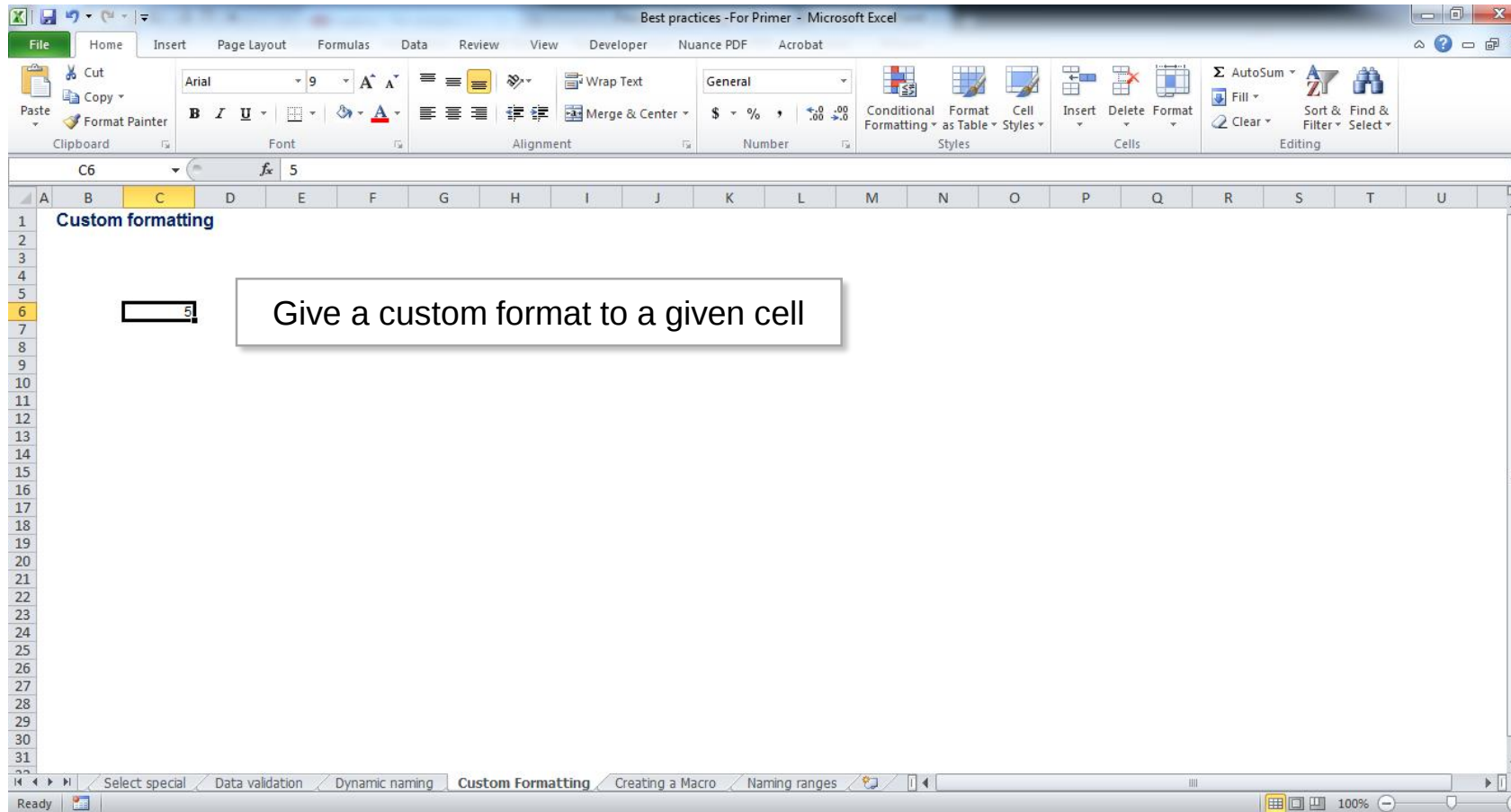
P&L Table (Columns H-M):

	2009A	2010A	2011A	2012A	2013A
P&L: Google					
Total Revenues	23.7	29.3	37.9	50.2	59.8
Cost of Sales	(8.8)	(10.4)	(13.2)	(20.6)	(25.9)
Gross Profit	14.8	18.9	24.7	29.5	34.0
Margin %	62.6%	64.5%	65.2%	58.9%	56.8%
Operating expenses	(6.5)	(8.5)	(13.0)	(16.8)	(20.0)
EBIT	8.3	10.4	11.7	12.8	14.0
Margin %	35.1%	35.4%	31.0%	25.4%	23.3%
Interest income/(expense)	-	-	(0.1)	(0.1)	(0.1)
		0.4	0.6	0.7	1.3
		-	-	-	-
		(2.3)	(2.6)	(2.6)	(2.3)
		8.5	9.7	10.7	12.9

Callout Box:

Change the content of C4 and it automatically updates in H4 as well

Custom formatting of cells



Custom formatting of cells

Best practices -For Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Custom formatting

Format Cells

Number Alignment Font Border Fill Protection

Category:

- General
- Number
- Currency
- Accounting
- Date
- Time
- Percentage
- Fraction
- Scientific
- Text
- Special
- Custom

Sample: 5

Type:

- General
- 0
- 0.00
- #,##0
- #,##0.00
- #,##0.00;(#,##0)
- #,##0.00;[Red](#,##0)
- #,##0.00.00;(#,##0.00)
- #,##0.00.00;[Red](#,##0.00)
- \$#,##0.00;(\$#,##0)
- \$#,##0.00;[Red](\$#,##0)

Type the number format code, using one of the existing codes as a starting point.

1 Give a custom format to a given cell

2 Right-click on the cell/range of cells

2 Go to "Format cells"

3 Click on "Custom"

3 Type in the menu the desired number format

Custom formatting of cells

Best practices - For Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Clipboard Font Alignment Number Styles Cells Editing

Custom formatting

Format Cells

Number Alignment Font Border Fill Protection

Category: General Number Currency Accounting Date Time Percentage Fraction Scientific Text Special Custom

Sample: 5.0 x

Type: .0 x

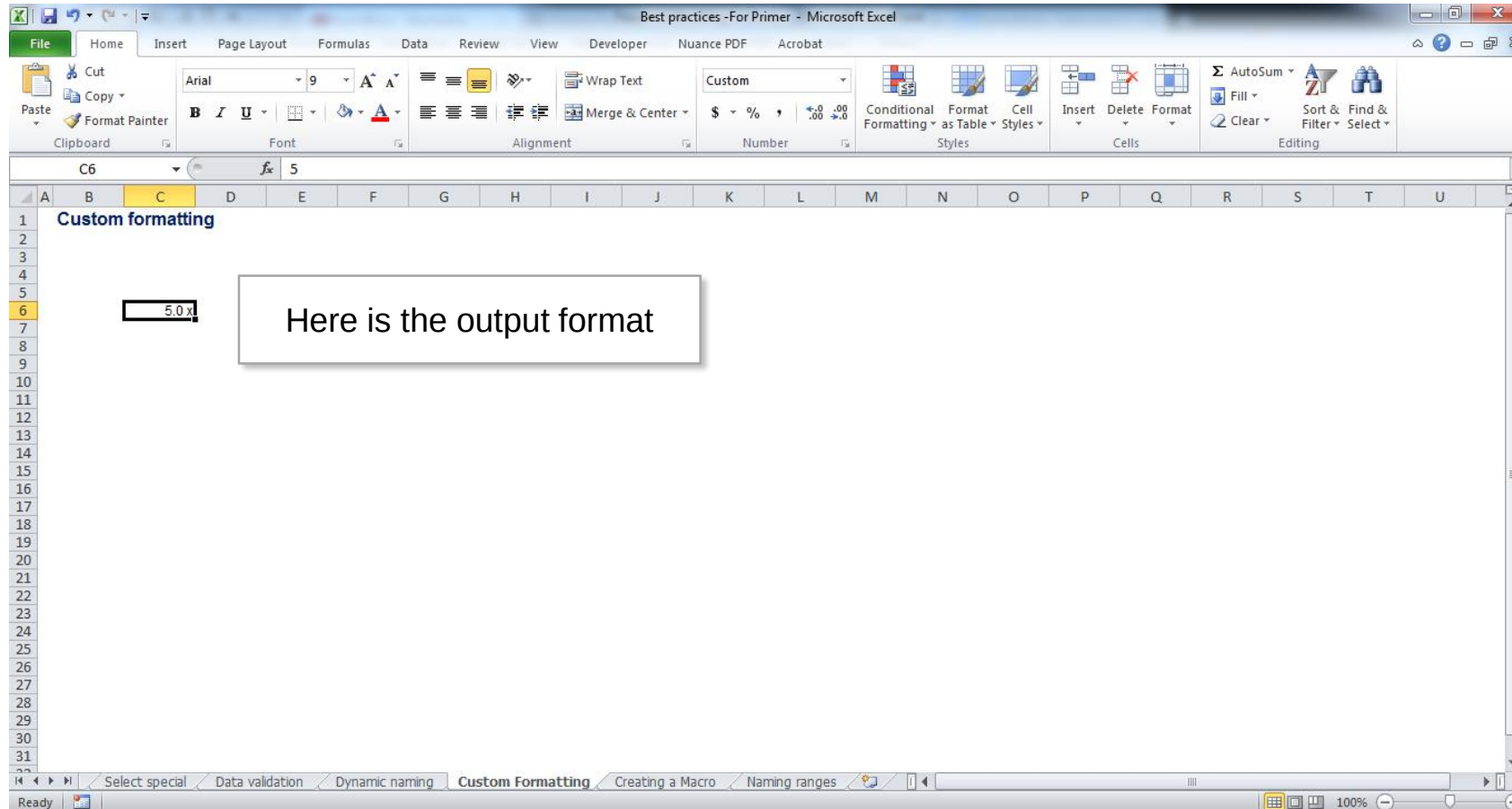
Assign any type of format: date, number, percentage etc.

Here we would like to have a multiple format, therefore we have ".0 x"

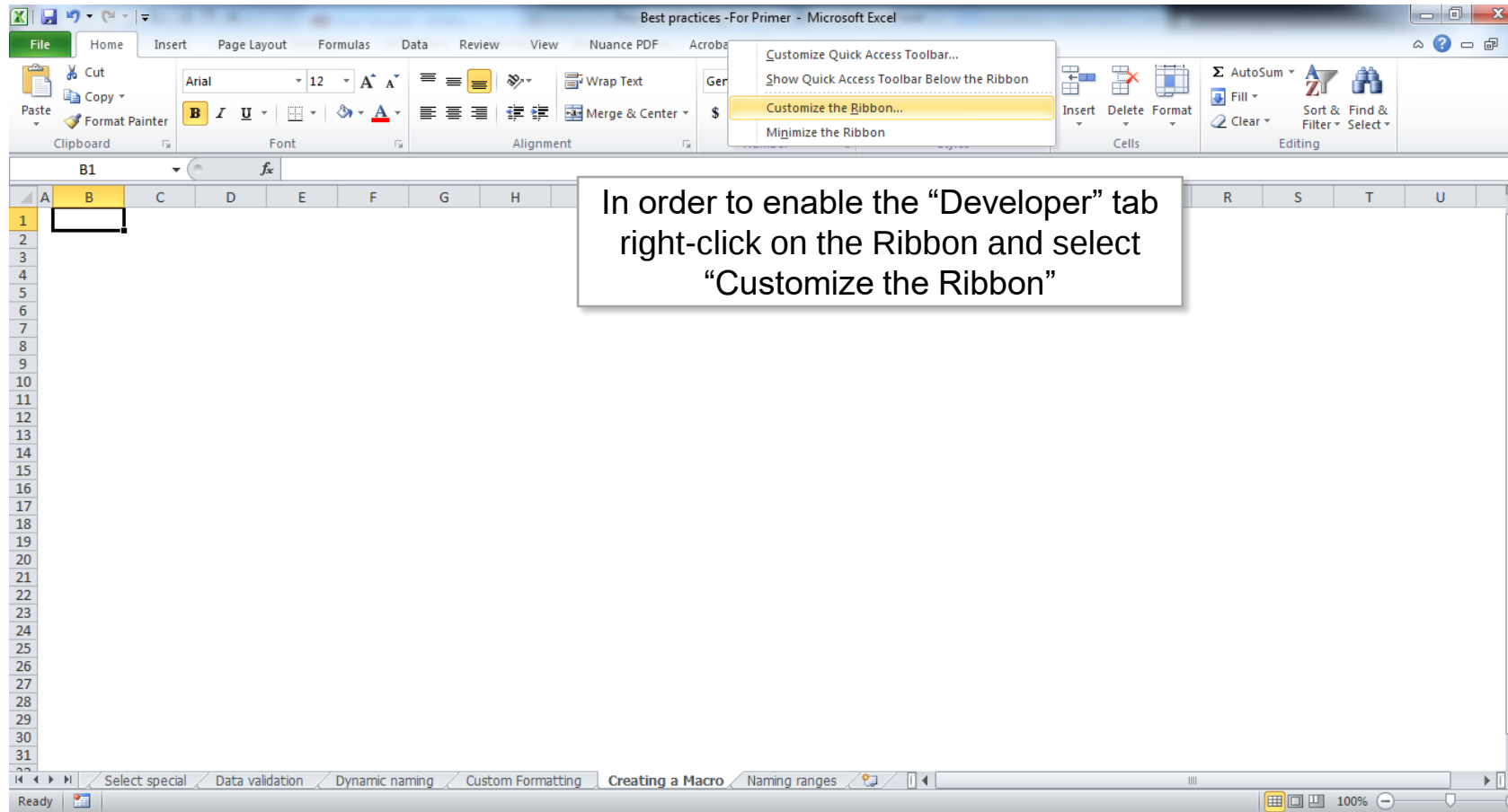
Type the number format code, using one of the existing codes as a starting point.

OK Cancel

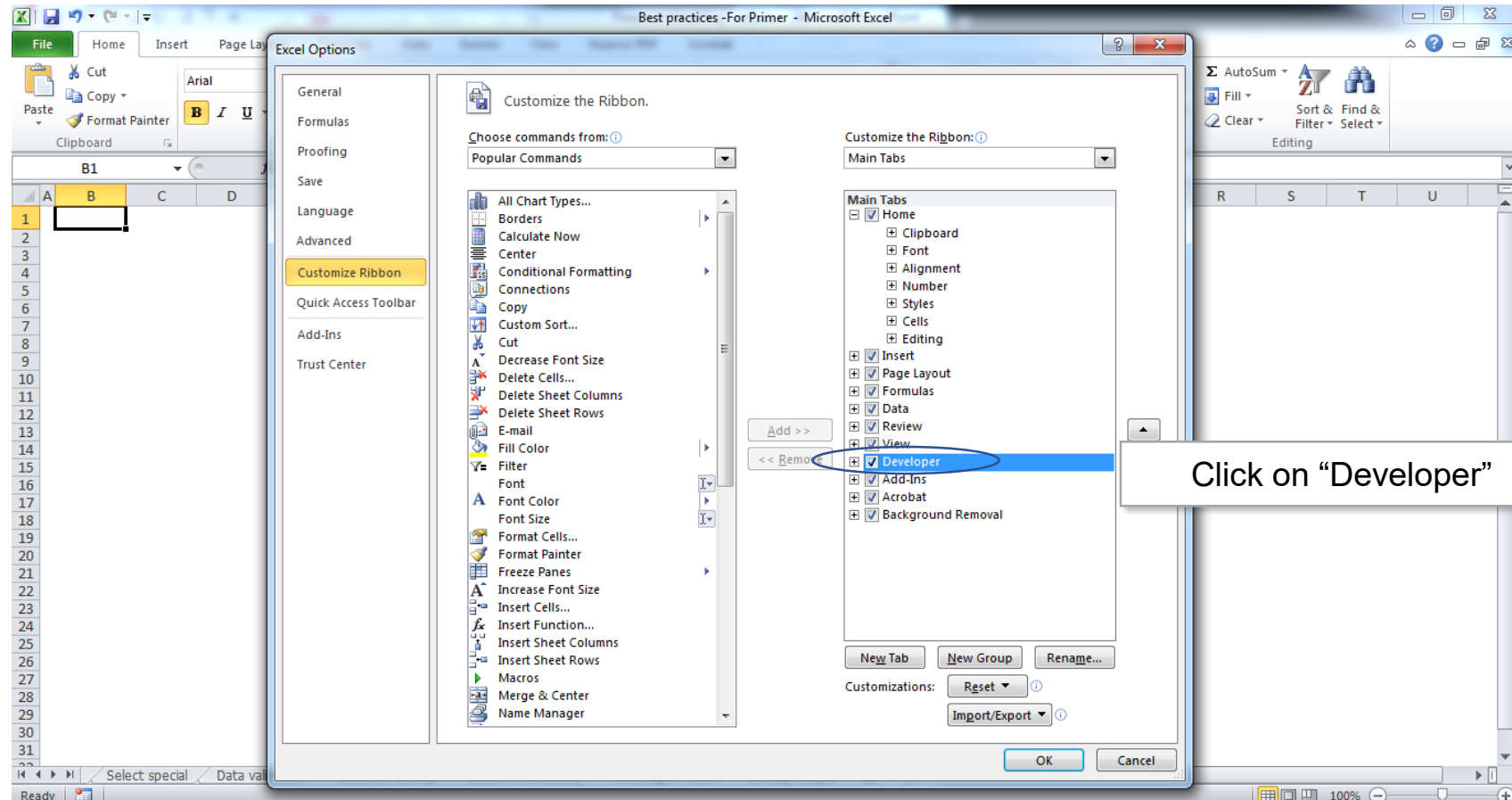
Custom formatting of cells



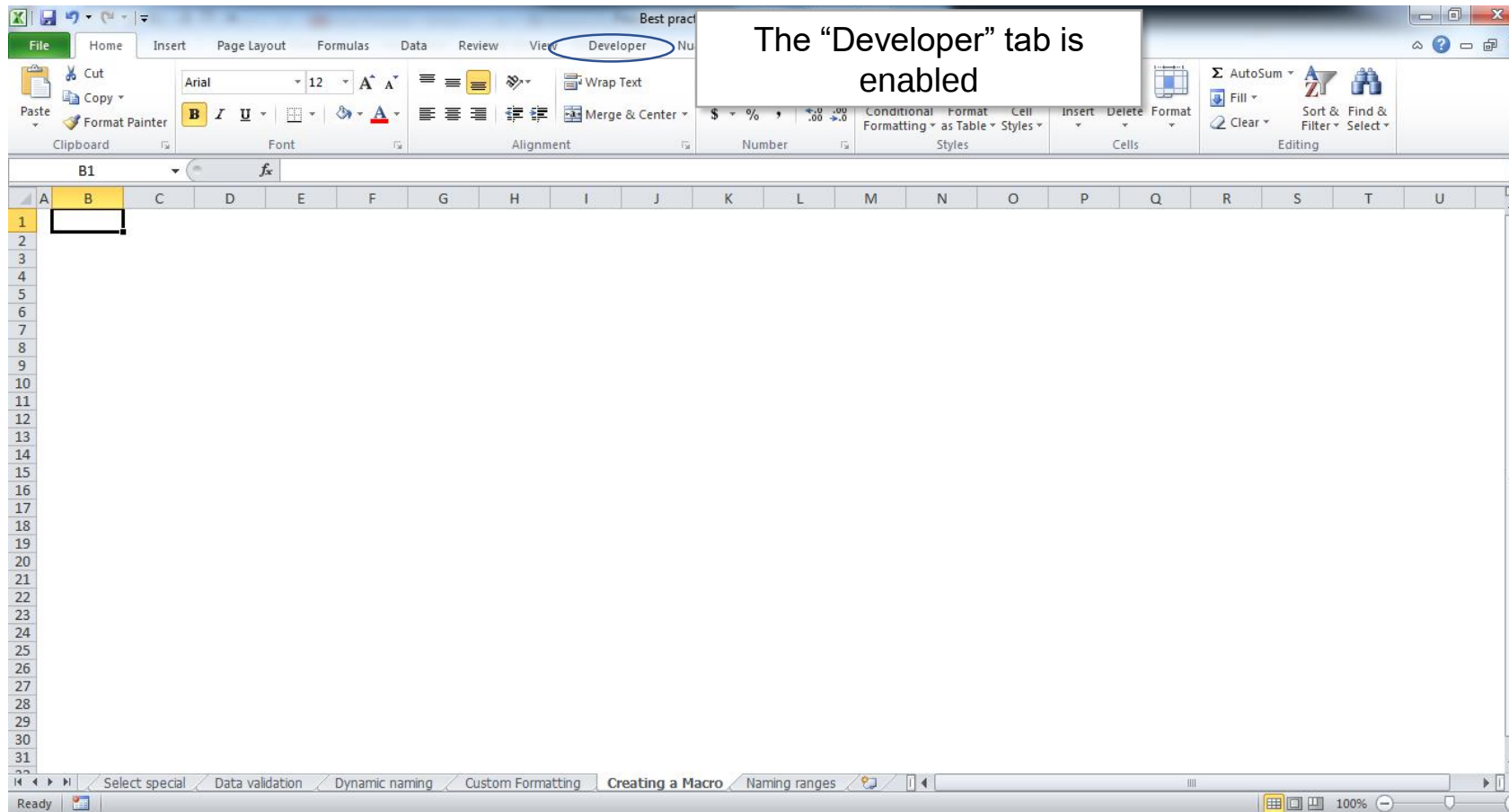
Recording Macros



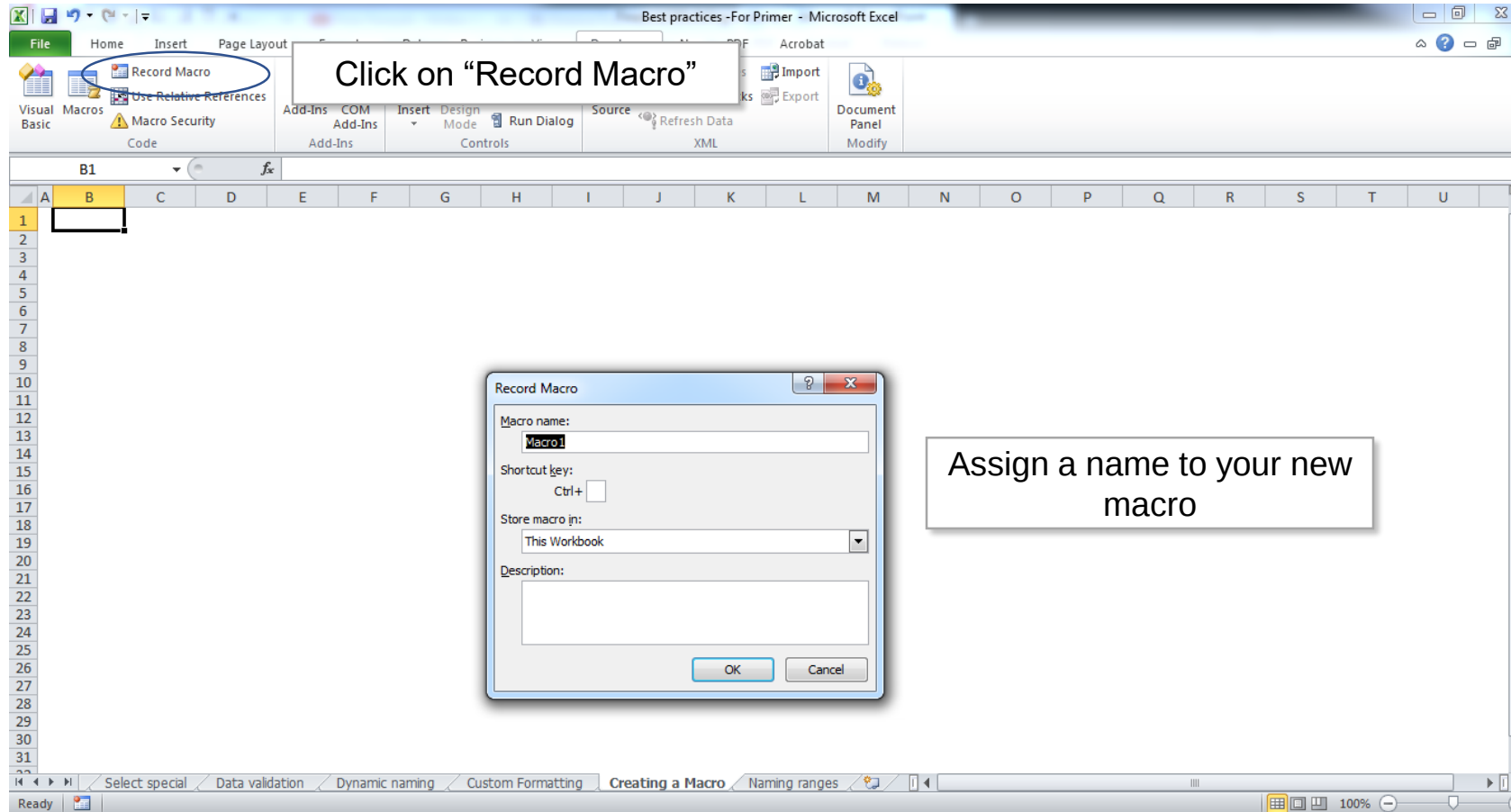
Recording Macros



Recording Macros



Recording Macros

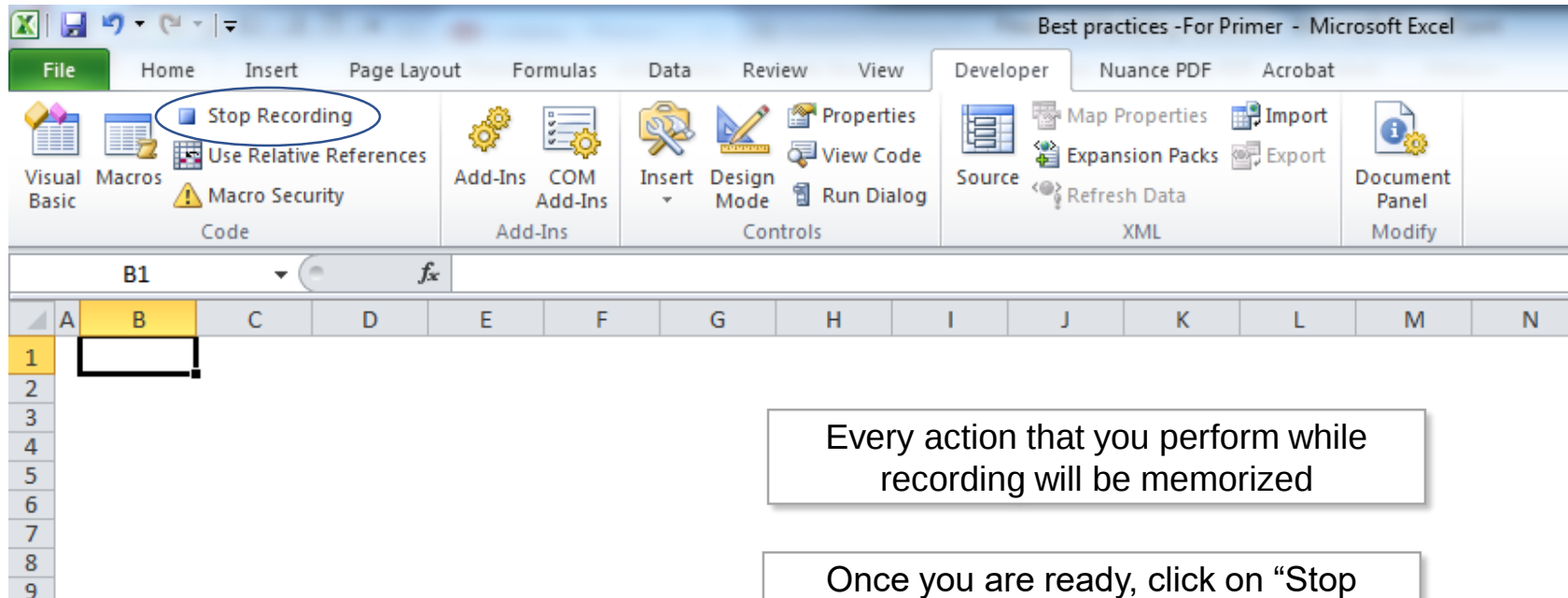


The screenshot shows the Microsoft Excel interface with the 'Developer' tab selected. The 'Record Macro' button is circled in the ribbon. A callout box points to it with the text 'Click on “Record Macro”'. Below the ribbon, the 'Record Macro' dialog box is open. It contains the following fields: 'Macro name:' with 'Macro1' entered, 'Shortcut key:' with 'Ctrl+' and an empty box, 'Store macro in:' with 'This Workbook' selected, and a 'Description:' text area. 'OK' and 'Cancel' buttons are at the bottom. A callout box to the right of the dialog box says 'Assign a name to your new macro'. The status bar at the bottom shows 'Ready' and 'Creating a Macro'.

Click on “Record Macro”

Assign a name to your new macro

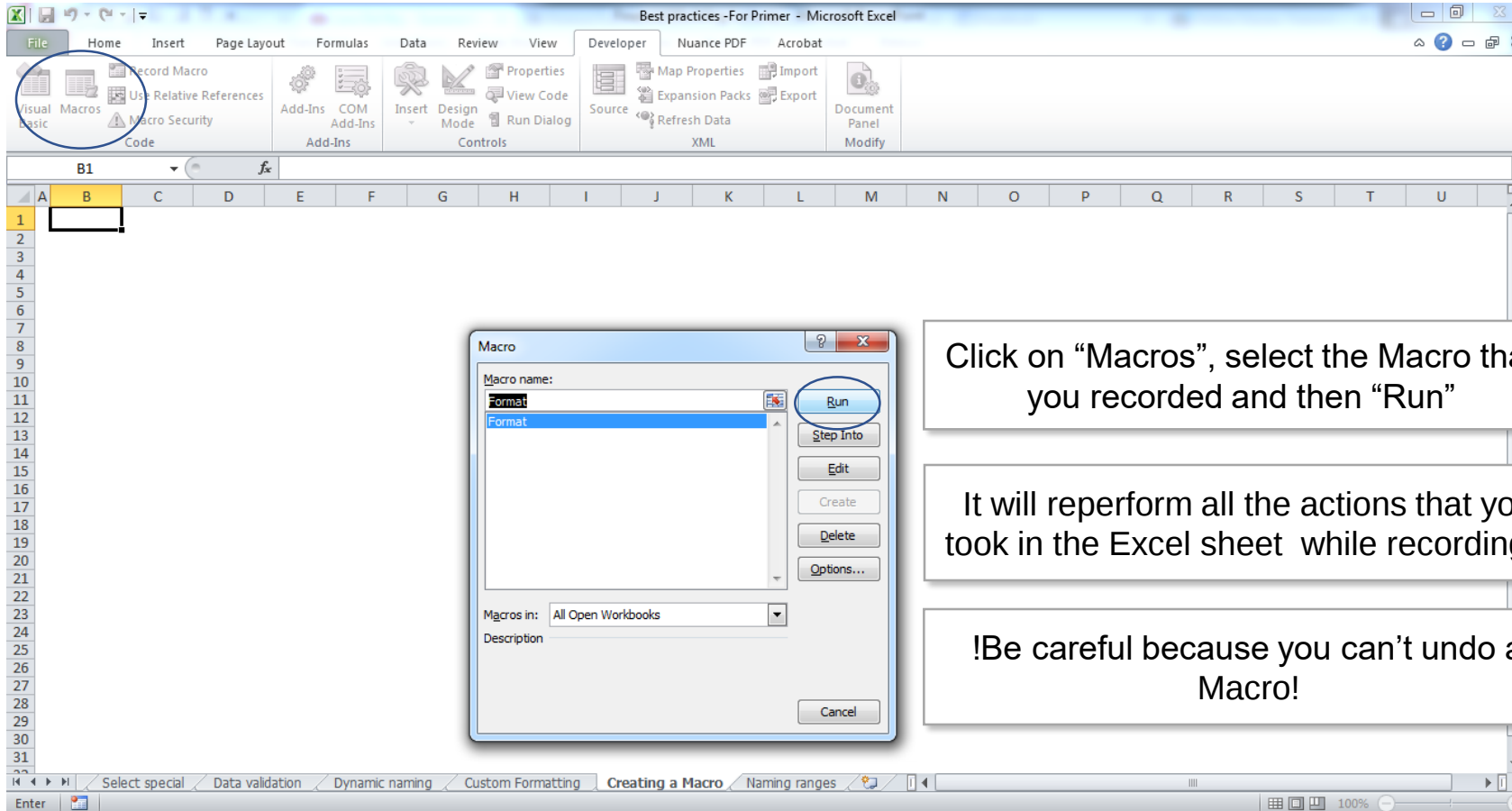
Recording Macros



Every action that you perform while recording will be memorized

Once you are ready, click on “Stop Recording”

Recording Macros



The screenshot shows the Microsoft Excel interface with the Developer tab selected. The 'Macros' group in the ribbon is circled in blue. Below the ribbon, the 'Macro' dialog box is open, showing a list of macros with 'Format' selected. The 'Run' button is also circled in blue. The background shows a worksheet with cell B1 selected.

Click on “Macros”, select the Macro that you recorded and then “Run”

It will reperform all the actions that you took in the Excel sheet while recording it

!Be careful because you can’t undo a Macro!

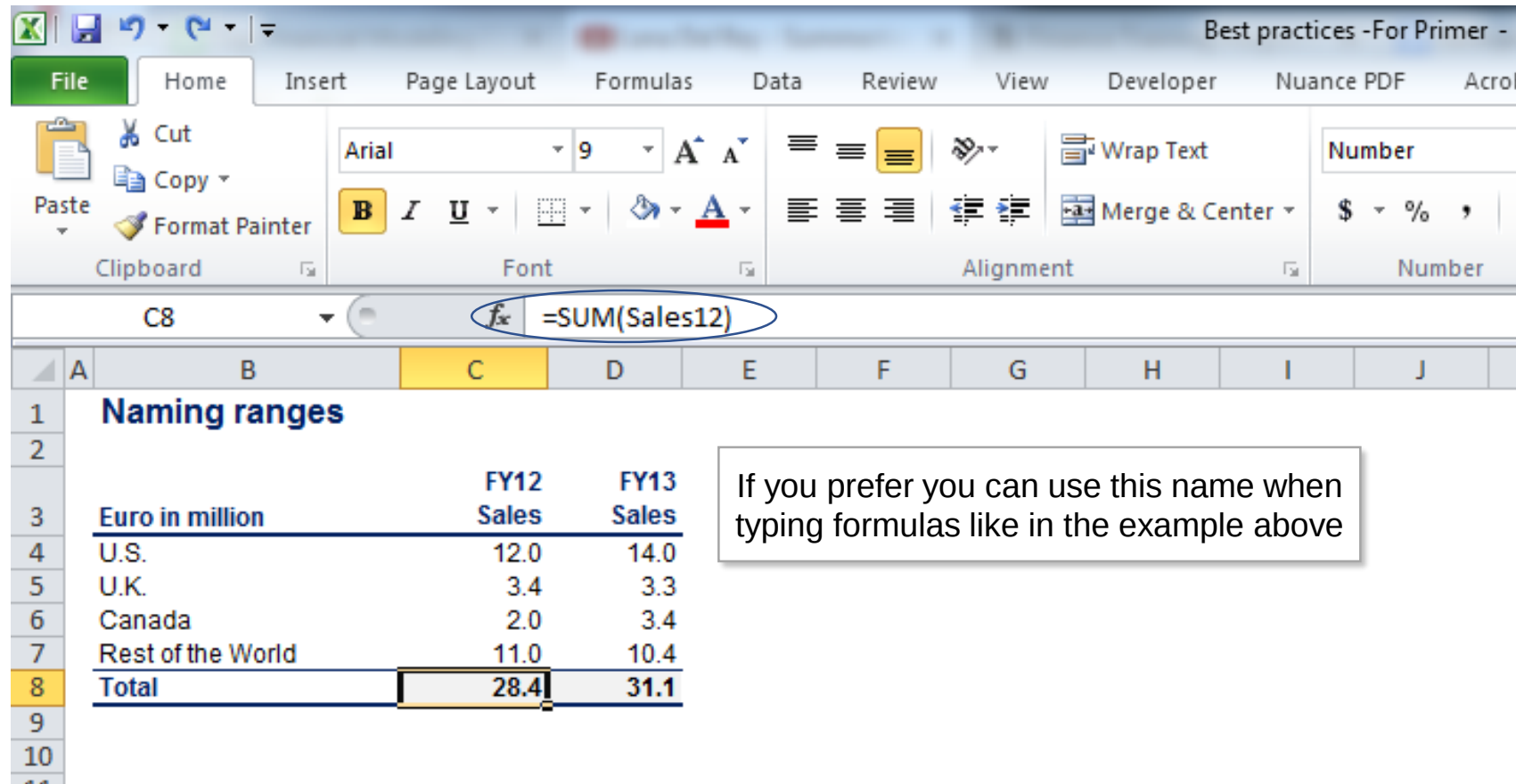
Name cell ranges

Select a cell or a cell range and click in this box

Assign a name of your choosing to the cell/cell range

	FF12	FF13
	Sales	Sales
U.S.	12.0	14.0
U.K.	3.4	3.3
Canada	2.0	3.4
Rest of the World	11.0	10.4
Total		

Name cell ranges



The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula `=SUM(Sales12)`, which is circled in blue. Below the formula bar, the worksheet grid is visible. The active cell is C8, which contains the value 28.4. The table of data is as follows:

		FY12 Sales	FY13 Sales	
1	Naming ranges			
2				
3	<u>Euro in million</u>			
4	U.S.	12.0	14.0	
5	U.K.	3.4	3.3	
6	Canada	2.0	3.4	
7	Rest of the World	11.0	10.4	
8	Total	28.4	31.1	
9				
10				

If you prefer you can use this name when typing formulas like in the example above

III. Excel's most useful functions

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard: Cut, Copy, Paste, Format Painter

Font: Font face, Size, Bold, Italic, Underline, Color, Background Color

Alignment: Left, Center, Right, Justify, Wrap Text, Merge & Center

Number: General, Text, Number, Currency, Accounting, Date, Time, Percentage, Fraction, Decimals

Styles: Conditional Formatting, Format as Table, Cell Styles

VLOOKUP

Formula Bar: =IF(logical_test, [value_if_true], [value_if_false])

Worksheet: A H

1 If

2

3 Team Country Champions league Games played Points earned

4 Borussia Germany Yes 34 71

5 Milan Italy Yes 38 57

6 Manchester United England Yes 38 64

7 Hamburger Germany No 34 27

8 Lazio Italy No 38 56

9 Fiorentina Italy No 38 65

10 Bayern Germany Yes 34 90

11 Liverpool England No 38 84

12 Arsenal England Yes 38 79

13 Total

14

15

16

17

18

19

20

1 If tests to see whether a certain condition is true or false...

2 ...the Excel user selects as a second argument of the function the value to be displayed if the condition is TRUE

3 ...the Excel user selects as a third argument of the function the value to be displayed if the condition is FALSE

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard: Cut, Copy, Paste, Format Painter

Font: Arial, 9, Bold, Italic, Underline, Text Color, Background Color

Alignment: Wrap Text, Merge & Center

Number: General, \$, %, .00, .0

Conditional Formatting, Format as Table, Cell Styles, Insert

H4 =IF(D4="Yes",F4,0)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		If												
2														
3		Team	Country	Champions league	Games played	Points earned								
4		Borussia	Germany	Yes	34	71								
5		Milan	Italy	Yes	38	57								
6		Manchester United	England	Yes	38	64								
7		Hamburger	Germany	No	34	27								
8		Lazio	Italy	No	38	56								
9		Fiorentina	Italy	No	38	65								
10		Bayern	Germany	Yes	34	90								
11		Liverpool	England	No	38	84								
12		Arsenal	England	Yes	38	79								
13		Total												
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														

Above we have the following:

- 1) The condition is that D4 is "Yes", which is True
- 2) The formula should display the value in F4 when True
- 3) The formula should display 0 when the condition is False

The screenshot shows the Microsoft Excel interface with the following details:

- Title Bar:** Basic functions in Excel - examples - for Primer - Microsoft Excel
- Ribbon:** File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Nuance PDF, Acrobat.
- Formulas Bar:** H4, fx, =IF(D4="Yes",F4,0)
- Worksheet:**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1		If																	
2																			
3		Team	Country	Champions league	Games played	Points earned													
4		Borussia	Germany	Yes	34	71													
5		Milan	Italy	Yes	38	57													
6		Manchester United	England	Yes	38	64													
7		Hamburger	Germany	No	34	27													
8		Lazio	Italy	No	38	56													
9		Florentina	Italy	No	38	65													
10		Bayern	Germany	Yes	34	90													
11		Liverpool	England	No	38	84													
12		Arsenal	England	Yes	38	79													
13		Total																	
- Formula Bar:** =IF(D4="Yes",F4,0)
- Cell H4:** 71
- Text Box:** Copying the function for the cells below, we obtain the value of points earned when a team played in the Champions League and 0 when it didn't play

The screenshot shows the Microsoft Excel interface with the following data table:

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			330	

The formula bar shows the formula `=SUM(E4:E12)` entered in cell E13. A text box on the right states: "Sum adds all the numbers in a given range of cells".

The screenshot shows the Microsoft Excel interface with the following data table:

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			330	593

The formula bar shows: `=SUMIF(C4:C12,C18,E4:E12)`

The spreadsheet shows the following data in the 'Games played' column (E4:E12) for teams in 'Italy' (C18):

Team	Games played
Milan	38
Lazio	38
Fiorentina	38

The formula result is 114 (38 + 38 + 38).

Sumif adds the numbers in a given cell range if a condition is satisfied

In the example that we have to the left we see that the function has **3 arguments**

- 1 "Range" contains the cells that will be evaluated
- 2 "Criteria" is the condition to be satisfied by the cells in the range
- 3 "Sum range" is the range with sells to be summed, when the condition is satisfied

Basic functions in Excel - examples - for Primer - Microsoft Excel

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E18 =SUMIF(C4:C12,C18,E4:E12)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			330	593

Italy 114

In the function to the left we have the following:
1) The first argument is the range C4:C12 – countries of origin

The second argument is C18 – Italy. It is the criterion that will be applied to the range. The function will sum the cells in the Sum range (3rd argument) only when it finds “Italy”

The sum range is from E4 to E12. The Sumif function sums the number of games played only for teams from Italy

Sumifs adds the numbers in a given cell range if multiple conditions are satisfied

The function has **n** arguments

1 The first argument is the "Sum range". These are the cells to be summed if the conditions are satisfied

2 "Criteria range 1" contains the first range with cells that will be evaluated

3 "Criteria 1" is the condition to be satisfied by the cells in "Criteria range 1"

4 "Criteria range 2" contains the second range with cells that will be evaluated

5 "Criteria 2" is the condition to be satisfied by the cells in "Criteria range 2"

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			330	593

Criteria range 1	Criteria 1	Criteria range 2	Criteria 2
England	Yes		

Formula: =SUMIFS(F4:F12,C4:C12,C16,D4:D12,D16)

In the function to the left we have the following:

- 1) The first argument is the sum range F4:F12 – points earned
- The second argument is “Criteria range 1” C4:C12 – Countries of origin
- The third argument is C18 – “Italy”. It is the criterion that will be applied to the first range
- The fourth argument is “Criteria range 2” D4:D12 – Champions league participation
- The fifth argument is D18 – “Yes”. It is the criterion that will be applied to the second range

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			330	593

England	Yes	143
---------	-----	-----

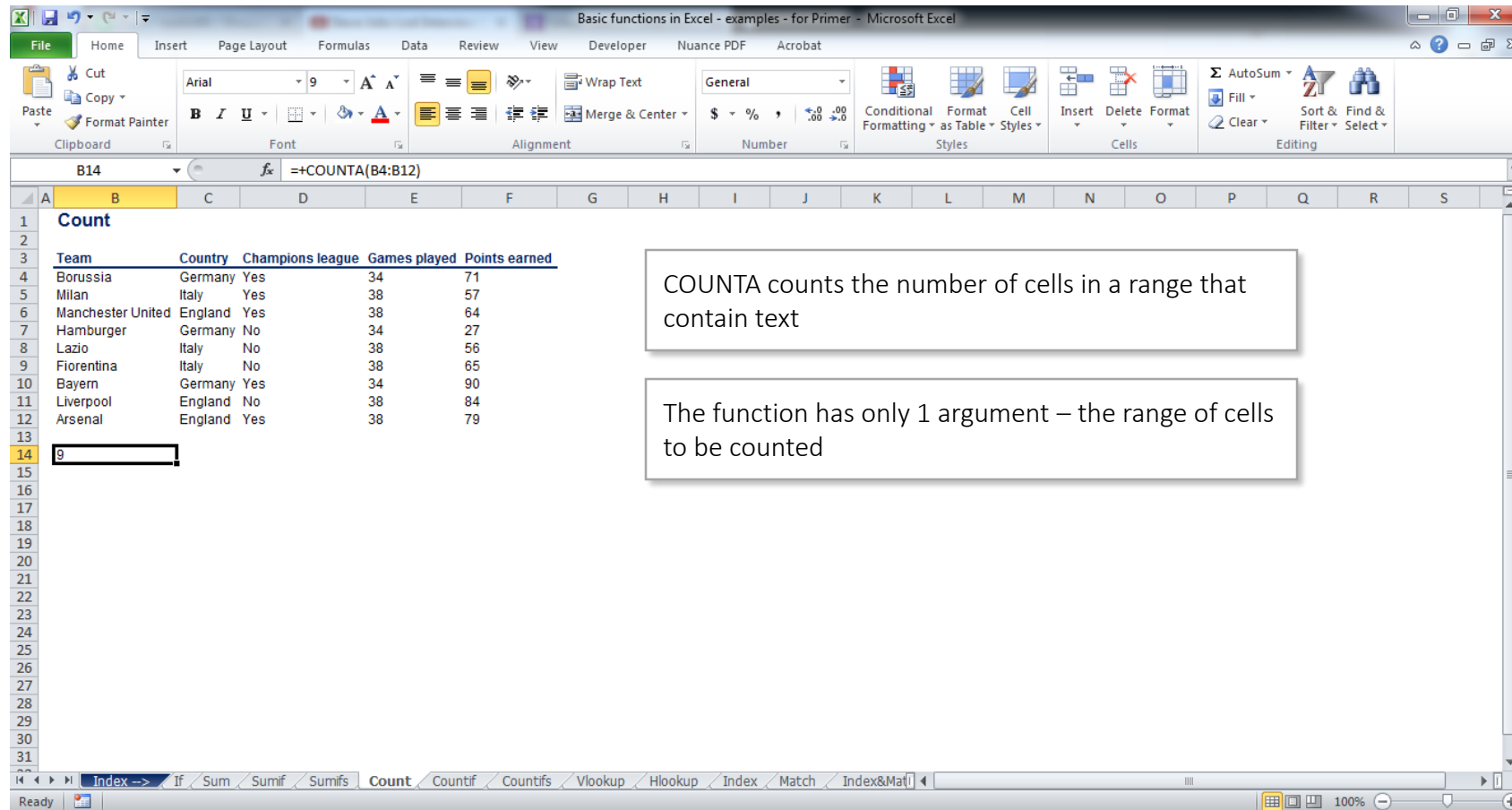
The screenshot shows the Microsoft Excel interface with the following data in the worksheet:

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

The formula bar shows the formula: `=COUNT(E4:E12)`. The cell E14 contains the result of the formula, which is 9.

Two text boxes provide additional information:

- COUNT counts the number of cells in a range that contain numbers
- The function has only 1 argument – the range of cells to be counted



Basic functions in Excel - examples - for Primer - Microsoft Excel

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B14 fx `=+COUNTA(B4:B12)`

Count	Team	Country	Champions league	Games played	Points earned
4	Borussia	Germany	Yes	34	71
5	Milan	Italy	Yes	38	57
6	Manchester United	England	Yes	38	64
7	Hamburger	Germany	No	34	27
8	Lazio	Italy	No	38	56
9	Fiorentina	Italy	No	38	65
10	Bayern	Germany	Yes	34	90
11	Liverpool	England	No	38	84
12	Arsenal	England	Yes	38	79

9

COUNTA counts the number of cells in a range that contain text

The function has only 1 argument – the range of cells to be counted

Ready

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

F14 =COUNTIF(F4:F12,>60)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Countif

1 The first argument is the range to be counted

2 The second argument is the condition that needs to be satisfied in order to count the cells

6

Index -> If Sum Sumif Sumifs Count Countif Countifs Vlookup Hlookup Index Match Index&Matl

Ready 100%

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

F14 =COUNTIF(F4:F12,">60")

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

1 We would like to count how many teams earned more than 60 points. Therefore we select the range containing the number of points earned F4:F12

2 The condition that needs to be satisfied is that a team earned more than 60 points

Six teams earned more than 60 points

Ready

COUNTIFS

COUNTIFS counts the number of cells within multiple ranges, which satisfy multiple conditions

The function has n arguments

1 The first argument is the "Criteria range 1". The first range of cells that we would like to be evaluated

2 "Criteria 1" is the condition to be satisfied by the cells in "Criteria range 1"

3 "Criteria range 2" contains the second range with cells that will be evaluated

4 "Criteria 2" is the condition to be satisfied by the cells in "Criteria range 2"

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

COUNTIFS

In the example on this page we have the following:

We would like to count the teams that satisfy two conditions:

- 1) Participated in the Champions league ("Yes")
- 2) Earned more than 60 Points

1 The first argument is the range indicating whether a team played in the Champions league ("Yes" or "No")

2 Then we have the condition that needs to be satisfied: "Yes" as we want to count only the teams which participated in the Champions league

3 The third argument is the range which contains the number of points earned by each team

4 We want to count only teams that earned more than 60 points

The screenshot shows an Excel spreadsheet with a table of football teams and a formula bar. The formula bar displays the formula: `=COUNTIFS(D4:D12,"Yes",F4:F12,">60")`. The formula is broken down into four numbered parts: 1. `D4:D12` (the range for the first condition), 2. `"Yes"` (the condition for the first argument), 3. `F4:F12` (the range for the second condition), and 4. `">60"` (the condition for the second argument). The table below shows the data being referenced:

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

VLOOKUP

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Clipboard Font Alignment Number Styles Cells Editing

I4

Vlookup

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Team	Country	Champions league	Games played	Points earned
Lazio				
Borussia				

Use Vlookup in order to fill the table to the right with data from the table to the left

Index --> If Sum Sumifs Sumifs Count Countif Countifs Vlookup Hlookup Index Match Index&Matl

Ready

VLOOKUP

The screenshot shows an Excel spreadsheet with a table of football teams and their statistics. The formula bar shows the VLOOKUP function being entered. A text box explains the function's purpose.

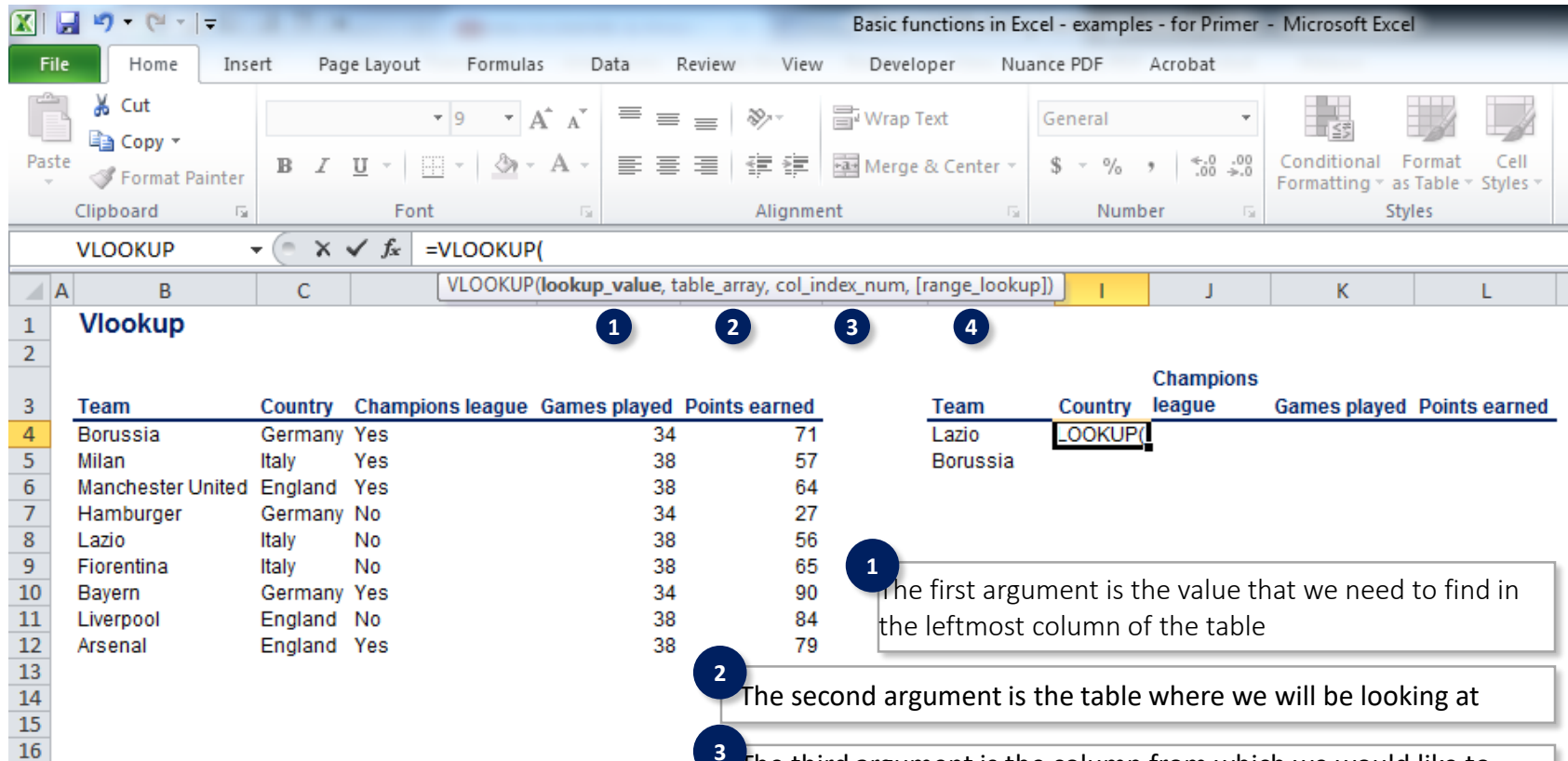
Table 1: Football Teams Data

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Table 2: VLOOKUP Example

Team	Country	Champions league	Games played	Points earned
Lazio	#N/A			
Borussia				

VLOOKUP Explanation: VLOOKUP looks for a value in the leftmost column of a table, and then returns a value in the same row from a column that you specify.



Vlookup

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Champions league

Team	Country	Champions league	Games played	Points earned
Lazio	Italy	No	38	56
Borussia	Germany	Yes	34	71

1 The first argument is the value that we need to find in the leftmost column of the table

2 The second argument is the table where we will be looking at

3 The third argument is the column from which we would like to make an extraction

4 Fourth argument is a logical value; we indicate whether we want the closest match ("TRUE") or an exact match ("FALSE")

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

VLOOKUP $=VLOOKUP(H4, B4:F12, 2, FALSE)$

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Team Country Champions league Games played Points earned

Lazio 2.FALSE

1 Our lookup value is Lazio – H4. We would like to find this value in the leftmost column of the table to the left

2 The second argument is the table with data : B4:F12. The function will look for Lazio in the leftmost column of the table - B4:B12

3 We select 2 as a column number, as we would like to obtain a value from the second column of the table when it finds a match for Lazio

4 The fourth argument is "FALSE" because we need an exact match

VLOOKUP

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Formula Bar: `=VLOOKUP(H4,$B$4:$F$12,2,FALSE)`

Vlookup

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	67
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Lookup value

Team	Country	Champions league	Games played	Points earned
Lazio	Italy			
Borussia				

The Lookup Value needs to be found within the leftmost column of the table

Ready

VLOOKUP

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Formula bar: `=VLOOKUP(H4,$B$4:$F$12,2,FALSE)`

Vlookup

1 2 3 4 5

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Team Country Champions league Games played Points earned

Lazio Italy

Once the lookup value has been found, we indicate which column we would like to obtain as a result. In this case we have indicated the second column "Country"

Ready

The screenshot shows an Excel spreadsheet with two tables. The first table (left) has 5 columns and 5 rows of data. The second table (right) has 5 columns and 2 rows of data. A callout box points to the second table, indicating that the HLOOKUP function is used to fill it with data from the first table.

Team	Country	Champions league	Games played	Points earned
Borussia	Milan	Manchester United	Hamburger	
Germany	Italy	England	Germany	
Yes	Yes	Yes	No	
34	38	38	34	
71	57	64	27	

Team	Country	Champions league	Games played	Points earned
Milan				
Hamburger				

Use Hlookup in order to fill the table to the right with data from the table to the left

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

VLOOKUP **Hlookup**

HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup])

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27

HLOOKUP looks for a value in the top row of a table, and then returns a value in the same column from a row that you specify

Index -> If Sum Sumif Sumifs Count Countif Countifs Vlookup Hlookup Index Match Index&Ma

Hlookup

Team	Borussia	Milan	Manchester United	Hamburger
Country	Germany	Italy	England	Germany
Champions league	Yes	Yes	Yes	No
Games played	34	38	38	34
Points earned	71	57	64	27

Champions league

Team	Country	league	Games played	Points earned
Milan	HLOOKUP!			
Hamburger				

- 1 The first argument is the value that we need to find in the top row of the table
- 2 The second argument is the table where we will be looking at
- 3 The third argument is the row from which we would like to make an extraction
- 4 Fourth argument is a logical value; we indicate whether we want the closest match ("TRUE") or an exact match ("FALSE")

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

HLOOKUP X $\checkmark$ f_x $\text{=HLOOKUP(H4,\$B\$3:\$F\$7,2,FALSE)}$

Team	Borussia	Milan	Manchester United	Hamburger
Country	Germany	Italy	England	Germany
Champions league	Yes	Yes	Yes	No
Games played	34	38	38	34
Points earned	71	57	64	27

1 Team Country
Milan 72.FALSE
Hamburger

2 Hlookup

3 An example makes things much easier:

1 Our lookup value is Lazio – H4. We would like to find this value in the top row of the table to the left

2 The second argument is the table with data : B3:F7. The function will look for Lazio in the top row of the table – B3:B7

3 We select 2 as a row number as we would like to obtain a value from the second row of the table when it finds a match for Lazio

4 The fourth argument is “FALSE” because we need an exact match

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Clipboard Font Alignment Number Styles Cells Editing

Formula Bar: `=HLOOKUP(H4,$B$3:$F$7,2,FALSE)`

Team	Borussia	Milan	Manchester United	Hamburger	Team	Country	Champions league	Games played	Points earned
Country	Germany	Italy	England	Germany	Milan	Italy			
Champions league	Yes	Yes	Yes	No	Hamburger				
Games played	34	38	38	34					
Points earned	71	57	64	27					

The Lookup Value needs to be found within the top row of the table

Index -> If Sum Sumif Sumifs Count Countif Countifs Vlookup Hlookup Index Match Index&Ma

Hlookup

Team	Country	Champions league	Games played	Points earned
Borussia Milan	Germany	Yes	34	71
Manchester United	Italy	Yes	38	57
Hamburger	England	No	38	64
Germany			27	

Once the lookup value has been found, we indicate which row we would like to obtain as a result. In this case we have indicated the second row "Country"

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment

AutoSum Sort & Filter Find & Select

Index is a function which returns a value from the intersection of a row and column

The function has 3 arguments

- 1 The first argument is the array in which we would like to make an extraction
- 2 The second argument is the row number within the array
- 3 The third argument is the column number within the array

HLOOKUP

=INDEX(B4:C12,5,2)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

EX(B4:C12,5,2)

Countif Countifs Vlookup Hlookup Index Match Index&Match Iferror Choose Average&Averageif M

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

F17 fx `=INDEX(B4:C12,5,2)`

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Index finds the intersection between the 5th row and the 2nd column within the array B4:C12 and delivers its result

Italy

Ready

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

HLOOKUP X ✓ ✖ =MATCH(H4,B4:B12,0)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Milan

Match returns the relative position of an item within an array

Match has 3 arguments

- 1 "Look up value" is the value that you want to find in order to obtain the number that you are looking for
- 2 "Look up array" is the array in which we will look for the "look up value"
- 3 The third argument is a logical value: "0" for an exact match and "1" for closest match

Match Index&Match Iferror Choose Average&Averageif Max,min Goal seek Data tables Left, right, mid

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Formula bar: I4 =MATCH(H4,B4:B12,0)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Lookup value: Milan

Array: 2

The output of the function is 2 because Milan is the 2nd value within the array

Ready

INDEX & MATCH

The screenshot shows a Microsoft Excel window titled "Basic functions in Excel - examples - for Primer - Microsoft Excel". The ribbon is set to the "Formulas" tab. The active cell is J4. The worksheet contains two tables. The first table, titled "Index & Match", is located in the range A3:M12. The second table, which is partially populated, is located in the range J4:M5. A blue arrow points from the first table to the second, indicating the data transfer. A text box explains the purpose of the INDEX & MATCH function.

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Team	Country	Champions league	Games played	Points earned
Milan				
Hamburger				

Use Index & Match in order to fill the table to the right with data from the table to the left

Index & Match is an **effective** substitute of Vlookup

INDEX & MATCH

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Formula Bar: `=INDEX(C4:C12,MATCH($I4,$B$4:$B$12,0))`

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Index & Match

Index needs a row number
(column number is optional)

Match will deliver as an output the position of the lookup value Milan in the array B4:12. In this example it is 2. Then Index will supply the 2nd value within the range C4:C12 - Italy

Match is nested in the Index function in order to provide the row number

AVERAGE

The screenshot shows the Microsoft Excel interface with the following data and formula:

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	n.a.
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Formula in cell E15: `=AVERAGE(E4:E12)`

Result in cell E15: 36.67

“Average” returns the arithmetic mean (the average) of a range of numbers

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

HLOOKUP X ✓ f_x =AVERAGEIF(D4:D12,"Yes",F4:F12)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	n.a.
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

2,"Yes",F4:F12

1 "Range" contains the cells that will be evaluated

2 "Criteria" is the condition to be satisfied by the cells in the range

3 "Average range" is the range with sells to be averaged when the condition is satisfied

Index Match Index&Match Iferror Choose Average&Averageif Max,min Goal seek Data tables Left, right

Edit 100%

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

F15 =AVERAGEIF(D4:D12,"Yes",F4:F12)

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	n.a.
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

72.2

In the function to the left we have the following:
1) The first argument is the range D4:D12 – participation in Champions league (“Yes” or “No”)

The second argument is “Yes”. It is the criterion that will be applied to the range. The function will provide the average of the cells which satisfy the “Yes” condition

The “average range” is from F4 to F12. The Averageif function averages the number of points earned only for teams participating in the Champions league

Ready

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

HLOOKUP  =IFERROR(F4/\$F\$13,"n.a.")

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1		Iferror																		
2																				
3		Team	Country	Champions league	Games played	Points earned		% of points earned												
4		Borussia	Germany	Yes	34	71		=F4/\$F\$13,"n.a."												
5		Milan	Italy	Yes	38	57														
6		Manchester United	England	Yes	38	64														
7		Hamburger	Germany	No	34	n.a.														
8		Lazio	Italy	No	38	56														
9		Fiorentina	Italy	No	38	65														
10		Bayern	Germany	Yes	34	90														
11		Liverpool	England	No	38	84														
12		Arsenal	England	Yes	38	79														
13		Total			330	566														
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				

1 Iferror tests to see whether a cell contains an error

2 The first argument of the function is an expression or formula that needs to be tested for an error

3 The second argument is the value to be displayed when there is an error in the first argument

Iferror Choose Average&Averageif Max,min Goal seek Data tables Left, right, mid Upper,Lower & Proper

Edit 100%

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

H4 f_x =IFERROR(F4/\$F\$13,"n.a.")

	Team	Country	Champions league	Games played	Points earned	% of points earned
4	Borussia	Germany	Yes	34	71	13%
5	Milan	Italy	Yes	38	57	
6	Manchester United	England	Yes	38	64	
7	Hamburger	Germany	No	34	n.a.	
8	Lazio	Italy	No	38	56	
9	Fiorentina	Italy	No	38	65	
10	Bayern	Germany	Yes	34	90	
11	Liverpool	England	No	38	84	
12	Arsenal	England	Yes	38	79	
13	Total			330	566	

Iferror tests whether there is an error in the expression that we have as a first argument (F4 divided by F13). There isn't an error, therefore it delivers the expression's result

Ready

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

H7 $\text{=IFERROR}(F7/\$F\$13,"n.a.")$

	Team	Country	Champions league	Games played	Points earned	% of points earned
4	Borussia	Germany	Yes	34	71	13%
5	Milan	Italy	Yes	38	57	10%
6	Manchester United	England	Yes	38	64	11%
7	Hamburger	Germany	No	34	error	n.a.
8	Lazio	Italy	No	38	56	10%
9	Fiorentina	Italy	No	38	65	11%
10	Bayern	Germany	Yes	34	90	16%
11	Liverpool	England	No	38	84	15%
12	Arsenal	England	Yes	38	79	14%
13	Total			330	566	

Copying the function downwards we can see that when it finds an error it displays "n.a", as we wanted it to

Iferror Choose Average&Averageif Max,min Goal seek Data tables Left, right, mid Upper,Lower & Proper

The screenshot shows the Microsoft Excel interface. The title bar reads "Basic functions in Excel - examples - for Primer - Microsoft Excel". The ribbon is set to "Formulas". The formula bar shows the formula `=LEFT(B4,3)`. Cell E4 is selected and contains the text "Dop".

Left, right, mid

Doppelkupplungsgetriebe **Dop**

The function returns the first three characters from the beginning of the text

Left returns a given number of characters from the beginning of a text string

The function returns the first three characters from the end of the text

Right returns a given number of characters from the end of a text string

Left, right, mid

Doppelkupplungsgetriebe bbe

Ready | Iferror | Choose | Average&Averageif | Max,min | Goal seek | Data tables | Left, right, mid | Upper,Lower & Proper | 100%

Basic functions in Excel - examples - for Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

Clipboard Font Alignment Number Styles Cells Editing

E6 =MID(B6,4,7)

Left, right, mid

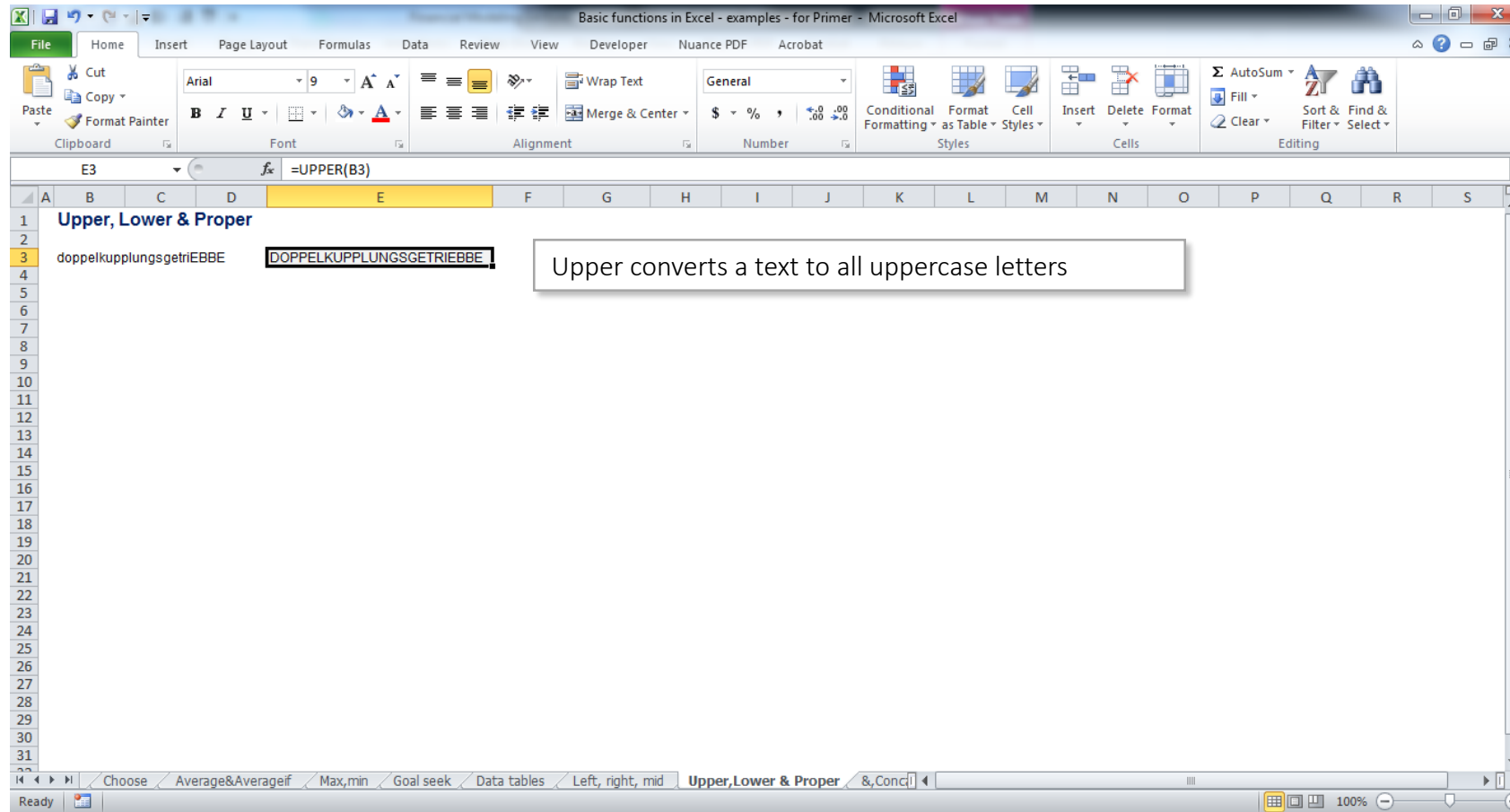
Doppelkupplungsgetriebe pelkupp

The function returns seven characters starting from the fourth character of the text

Mid returns a given number of characters from the middle of a text string

The function has 3 arguments: text, starting number and number of characters

Ready 100%



The screenshot shows the Microsoft Excel interface with the following details:

- Title Bar:** Basic functions in Excel - examples - for Primer - Microsoft Excel
- Ribbon:** File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Nuance PDF, Acrobat.
- Formulas Bar:** E4, fx, =LOWER(B4)
- Worksheet:**
 - Row 1: Upper, Lower & Proper
 - Row 4: B4 contains 'doppelkupplungsgetrieBE', E4 contains 'doppelkupplungsgetriebe'.
- Text Box:** Lower converts a text to all lowercase letters
- Status Bar:** Ready, 100% zoom.

The screenshot shows the Microsoft Excel interface with the following details:

- File Name:** Basic functions in Excel - examples - for Primer - Microsoft Excel
- Formulas Bar:** Shows the formula `=PROPER(B5)` in cell E5.
- Worksheet:** Cell E5 contains the text "Doppelkupplungsgetriebe" in proper case. Cell B5 contains the original text "doppelkupplungsgetriebe".
- Text Box:** A white box with a black border contains the text: "Proper converts a text to proper case. The first letter of each word is an uppercase letter and the rest of the letters are lowercase".
- Taskbar:** Shows the "Upper, Lower & Proper" task pane is active.

& and CONCATENATE

The screenshot displays the Microsoft Excel interface with the title bar "Basic functions in Excel - examples - for Primer - Microsoft Excel". The ribbon includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Nuance PDF, and Acrobat. The Home tab is active, showing groups for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The formula bar shows the active cell C6 with the formula `=B4&C4&D4`. The worksheet grid shows columns A through U and rows 1 through 31. In row 4, cells B4, C4, and D4 contain the text "ABC", "123", and "CDE" respectively. Cell C6, which is highlighted, contains the concatenated result "ABC123CDE". A text box with a black border and white background is overlaid on the right side of the worksheet, containing the text "& is able to join separate text strings in the same cell". The status bar at the bottom shows "Ready" and a list of active functions: Max, min, Goal seek, Data tables, Left, right, mid, Upper, Lower & Proper, &, Concatenate, Pivot tables, and Pivot t.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3																					
4			ABC	123	CDE																
5																					
6			ABC123CDE																		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
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27																					
28																					
29																					
30																					
31																					

& and CONCATENATE

The screenshot shows the Microsoft Excel interface with the title bar "Basic functions in Excel - examples - for Primer - Microsoft Excel". The ribbon includes tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, Developer, Nuance PDF, and Acrobat. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The formula bar shows the formula `=CONCATENATE(B4,C4,D4)` for cell C7. The worksheet has columns A through U and rows 1 through 31. In row 4, cells B4, C4, and D4 contain the text "ABC", "123", and "CDE" respectively. Cell C7, which is highlighted, contains the concatenated result "ABC123CDE". A text box with a black border and white background is overlaid on the right side of the worksheet, containing the text: "CONCATENATE is able to join separate text strings in the same cell". The status bar at the bottom shows "Ready" and a list of functions: Max,min, Goal seek, Data tables, Left, right, mid, Upper,Lower & Proper, &,Concatenate, Pivot tables, and Pivot t.

CONCATENATE is able to join separate text strings in the same cell

Basic functions in Excel - examples - for Primer - Microsoft Excel

Choose is a very useful function for financial modeling purposes. It allows users to build scenarios for a given model

Choose is composed of 3 or more arguments

1 An index number which determines the value that will be selected

2 Value 1 is the value which will be selected when the index number is set at 1

3 Value 2 is the value which will be selected when the index number is set at 2

...

n Value n is the value which will be selected when the index number is set at n

IFERROR X ✓ =CHOOSE(\$I\$4,C7,C8,C9)

		FY11	FY12	FY13	FY14
1	Choose				
2	\$ in billion				
3	Revenues	C7,C8,C9	135	145	150
4					
5					
6					
7	Optimistic case	124	135	145	150
8	Base case	120	132	140	144
9	Worst case	111	109	104	98
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Index&Match Iferror Choose Average&Averageif Max,min Goal seek Data tables

Basic functions in Excel - examples - for Primer - Microsoft Excel

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Clipboard Font Alignment Number Styles Cells Editing

Formula bar: `=CHOOSE(2, 120, 132, 140, 144)`

Cell I4: 120

Worksheet: Choose

\$ in billion	FY11	FY12	FY13	FY14
Revenues	120	132	140	144
Optimistic case	124	135	145	150
Base case	120	132	140	144
Worst case	111	109	104	98

When the index number is 2 the function picks the 2nd range of values

Ready | Index&Match | Iferror | Choose | Average&Averageif | Max,min | Goal seek | Data tables | Left, right, mid | Upper,lower

The screenshot shows a Microsoft Excel spreadsheet titled "Basic functions in Excel - examples - for Primer - Microsoft Excel". The ribbon is set to the "Formulas" tab. The active cell is F15, and the formula bar shows the formula `=MAX(F4:F12)`. The spreadsheet contains a table of football teams and their performance metrics. The table has the following data:

Team	Country	Champion	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

The formula `=MAX(F4:F12)` is applied to cell F15, which displays the value 90. A blue arrow points from the text box "By using Max we were able to find out that the highest number of points earned is 90" to the cell F15. Another text box states "Max finds the largest value in a set of values".

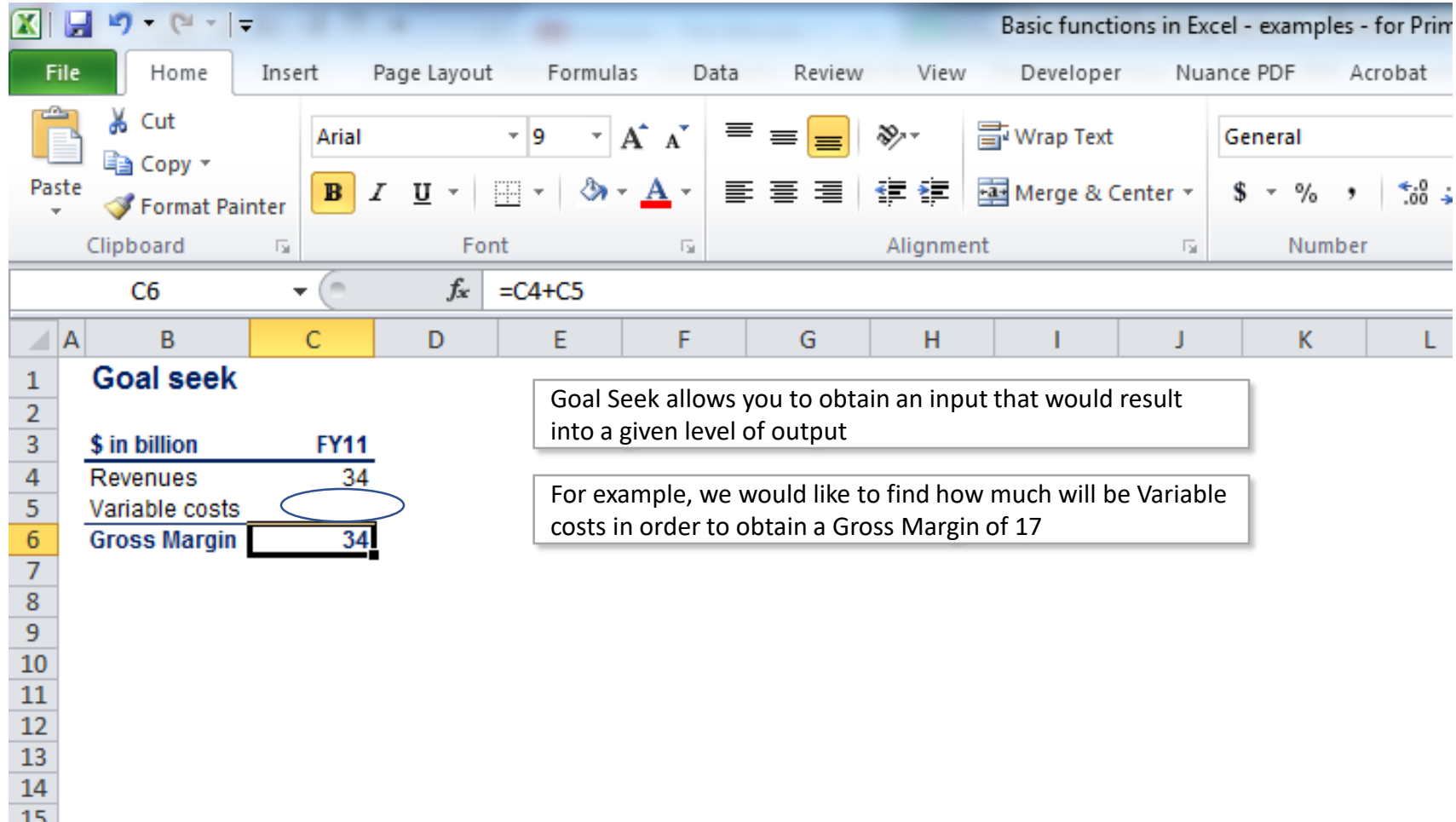
Max finds the largest value in a set of values

By using Max we were able to find out that the highest number of points earned is 90

The screenshot shows the Microsoft Excel interface with the following details:

- Formula Bar:** Displays the formula `=MIN(F4:F12)` in cell F16.
- Worksheet Data:** A table titled "Max & Min" with the following data:

Team	Country	Champion	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Florentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
- Cell F16:** Contains the value 27, which is the minimum value from the range F4:F12.
- Annotations:**
 - A text box states: "Min finds the smallest value in a set of values".
 - A blue arrow points from a text box to cell F16. The text box says: "By using Min we were able to find out that the lowest number of points earned is 27".
- Excel Interface:** The ribbon shows the "Formulas" tab. The status bar at the bottom indicates "Ready" and "100%" zoom.

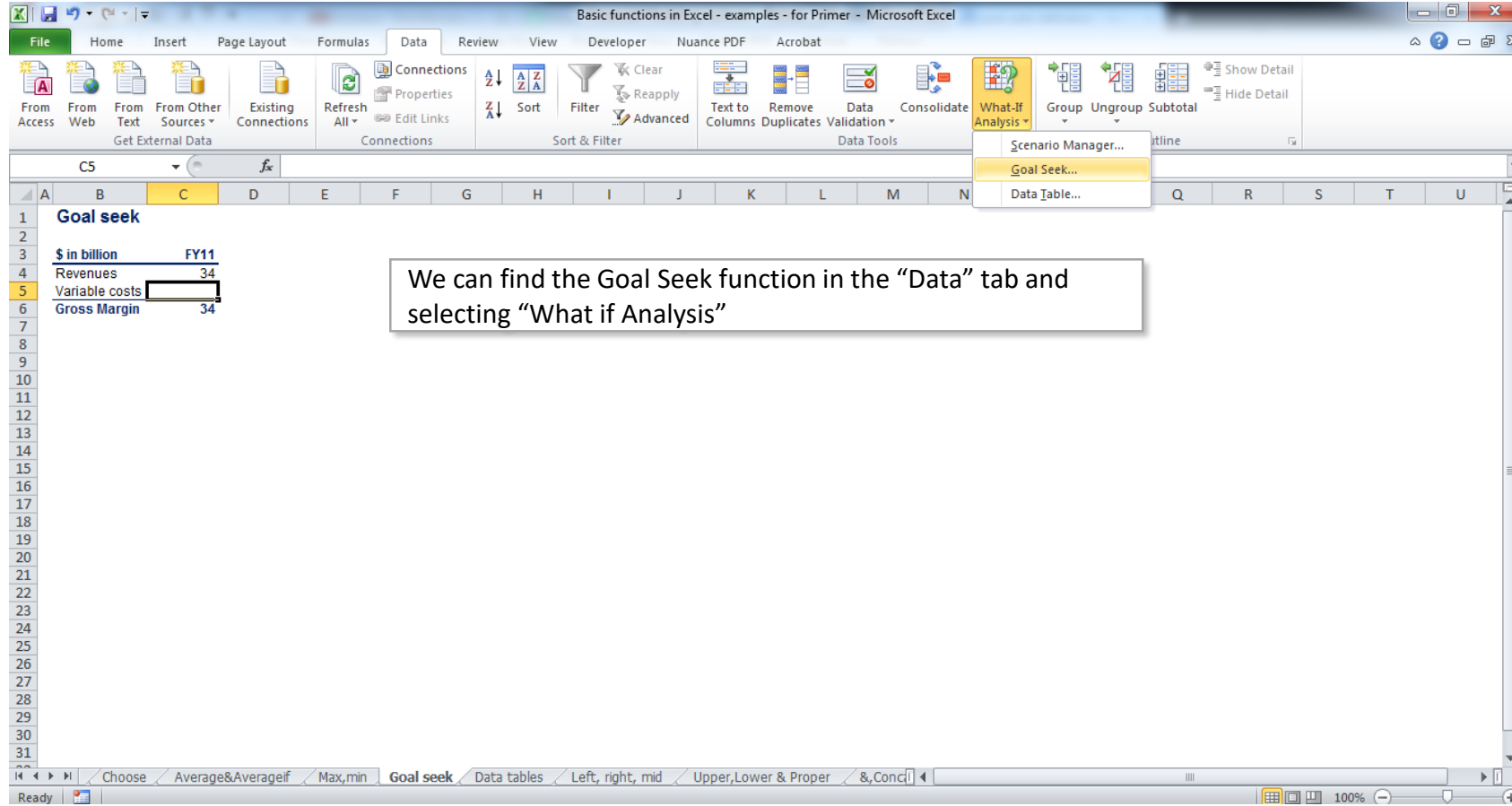


The screenshot shows the Microsoft Excel interface with the 'Goal Seek' tool being used. The formula bar shows $=C4+C5$ for cell C6. The worksheet contains the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	
1		Goal seek											
2													
3			<u>\$ in billion</u>										
4			Revenues										
5			Variable costs										
6			Gross Margin										
7													
8													
9													
10													
11													
12													
13													
14													
15													

Two text boxes provide additional context:

- Goal Seek allows you to obtain an input that would result into a given level of output
- For example, we would like to find how much will be Variable costs in order to obtain a Gross Margin of 17



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The 'What-If Analysis' dropdown menu is open, showing options: 'Scenario Manager...', 'Goal Seek...', and 'Data Table...'. The 'Goal Seek...' option is highlighted. In the background, a spreadsheet titled 'Goal seek' is visible with the following data:

		FY11
3	\$ in billion	
4	Revenues	34
5	Variable costs	
6	Gross Margin	34

A text box overlay states: "We can find the Goal Seek function in the 'Data' tab and selecting 'What if Analysis'" data-bbox="322 456 651 513"/>

GOAL SEEK

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The worksheet contains the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1		Goal seek												
2														
3			\$ in billion											
4			Revenues											
5			Variable costs											
6			Gross Margin											
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
17														
18														

The Goal Seek dialog box is open, showing the following settings:

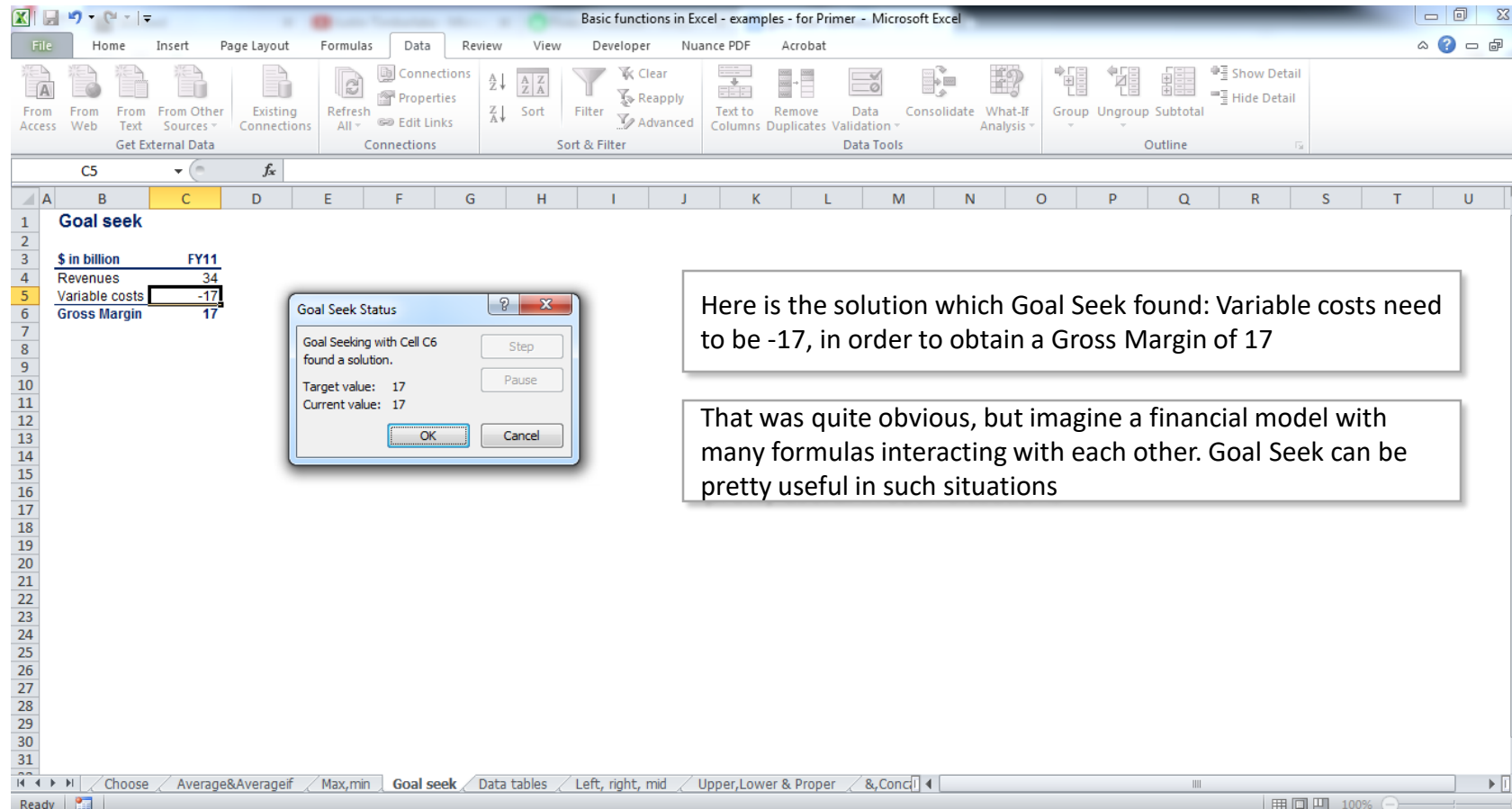
- Set cell:** \$C\$6
- To value:** 17
- By changing cell:** \$C\$5

Buttons: OK, Cancel

Set cell: We said that we would like to obtain a Gross Margin of 17. Therefore we need to set C6

To value: We will set C6 to 17

By changing cell: The cell that we will change is C5, Variable costs



Basic functions in Excel - examples - for Primer - Microsoft Excel

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From Access From Web From Text From Other Sources Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

C5

Goal seek

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1																					
2																					
3			\$ in billion																		
4			Revenues																		
5			Variable costs																		
6			Gross Margin																		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
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27																					
28																					
29																					
30																					
31																					

Goal Seek Status

Goal Seeking with Cell C6 found a solution.

Target value: 17

Current value: 17

Step Pause OK Cancel

Here is the solution which Goal Seek found: Variable costs need to be -17, in order to obtain a Gross Margin of 17

That was quite obvious, but imagine a financial model with many formulas interacting with each other. Goal Seek can be pretty useful in such situations

Ready Choose Average&Averageif Max,min Goal seek Data tables Left, right, mid Upper,Lower & Proper &,Conc[] 100%

Basic functions in Excel - examples - for Prime

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Cut Copy Paste Format Painter Clipboard

Arial 9 B I U Font

Alignment Merge & Center

Number

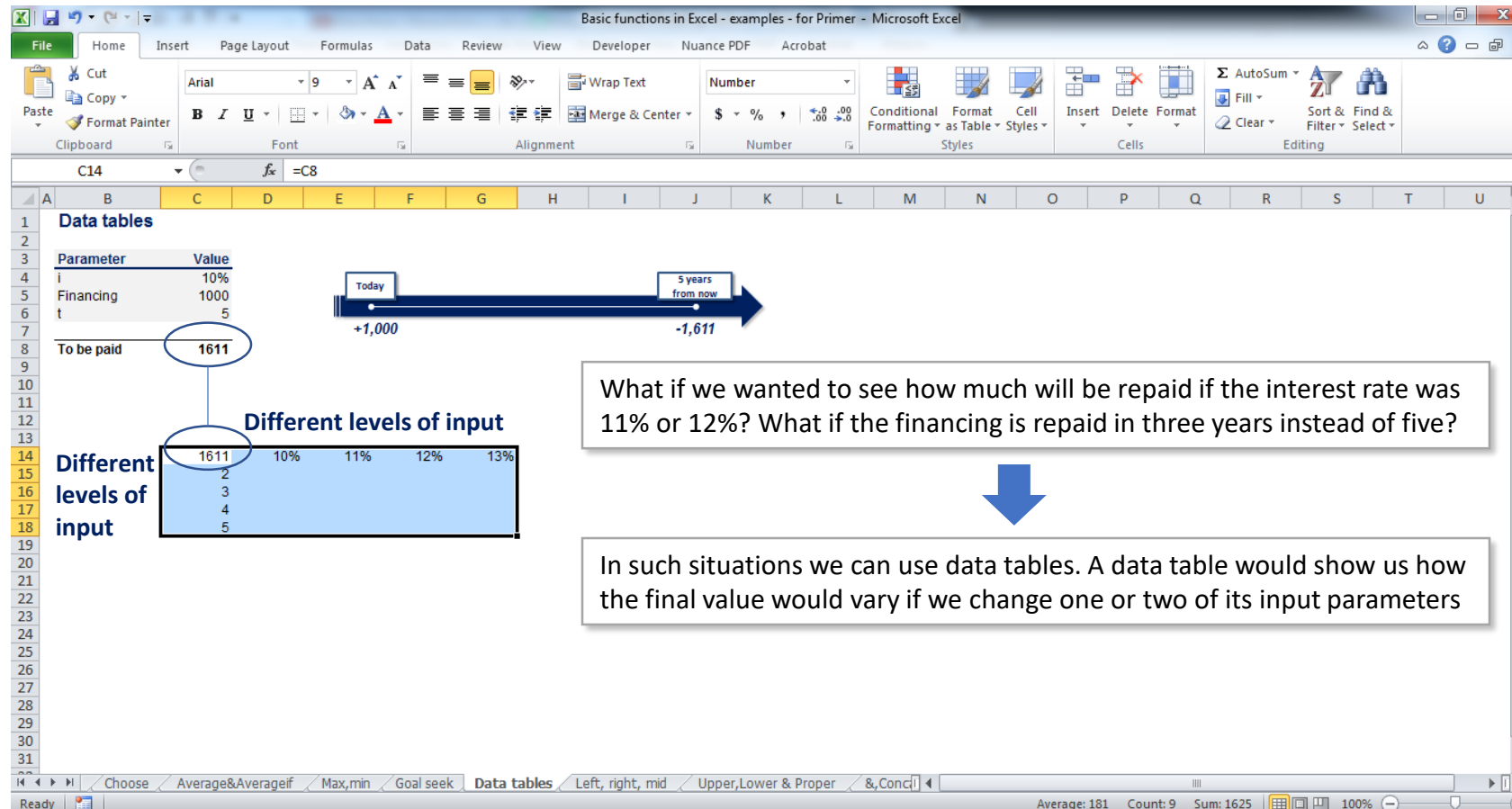
C8 $=C5*(1+C4)^C6$

Parameter	Value
i	10%
Financing	1000
t	5

To be paid 1611



In this sheet is calculated the amount, which will be due in 5 years for a financing of 1,000 that is received today



DATA TABLES

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The 'What-If Analysis' dropdown menu is open, showing options: 'Scenario Manager...', 'Goal Seek...', and 'Data Table...'. The spreadsheet contains a financial timeline diagram and a data table.

Timeline Diagram:

Today (0) → 5 years from now (5)

At Today: +1,000

At 5 years from now: -1,611

Data Table:

	1611	10%	11%	12%	13%
2					
3					
4					
5					

Go to "What if Analysis" and select Data Table..

Basic functions in Excel - examples - for Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

From Access From Web From Text From Other Sources Get External Data Existing Connections Refresh All Properties Edit Links Connections Sort & Filter Filter Sort Clear Reapply Advanced Text to Columns Remove Duplicates Data Validation Consolidate What-If Analysis Group Ungroup Subtotal Show Detail Hide Detail Outline

C6 =C8

Data tables

Parameter	Value
i	10%
Financing	1000
t	5
To be paid	1611

Timeline diagram: Today → 5 years from now

Arrows indicate: +1,000 at Today, -1,611 at 5 years from now

Data Table

Row input cell: \$C\$4

Column input cell: \$C\$6

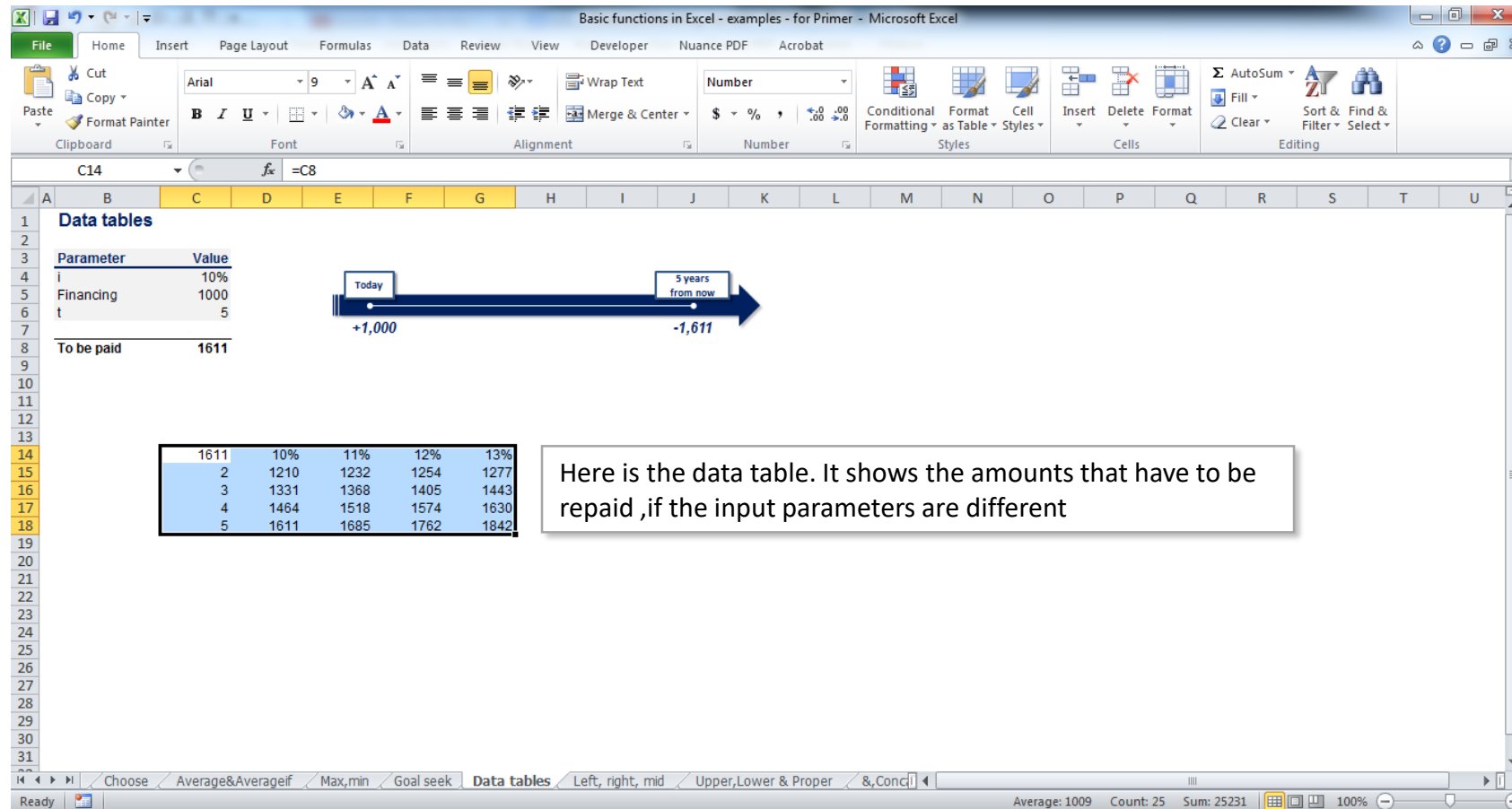
OK Cancel

Select the two input parameters

1611	10%	11%	12%	13%
2				
3				
4				
5				

Choose Average&Averageif Max,min Goal seek **Data tables** Left, right, mid Upper,Lower & Proper &,Concl

Point 100%



365 Careers

Pivot tables are Excel's dynamic and interactive tables. The data that you see on this sheet includes 15,000 rows and could be hard to elaborate. Pivot tables are a great way to simplify the work with large quantities of data

PIVOT TABLES

Basic functions in Excel - examples - for Primer - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Developer Nuance PDF Acrobat

PivotTable Table Picture Clip Art Shapes SmartArt Screenshot Column Line Pie Bar Area Scatter Other Charts Line Column Win/Loss Slicer Hyperlink Text Box Header & Footer WordArt Signature Line Object Equation Symbol

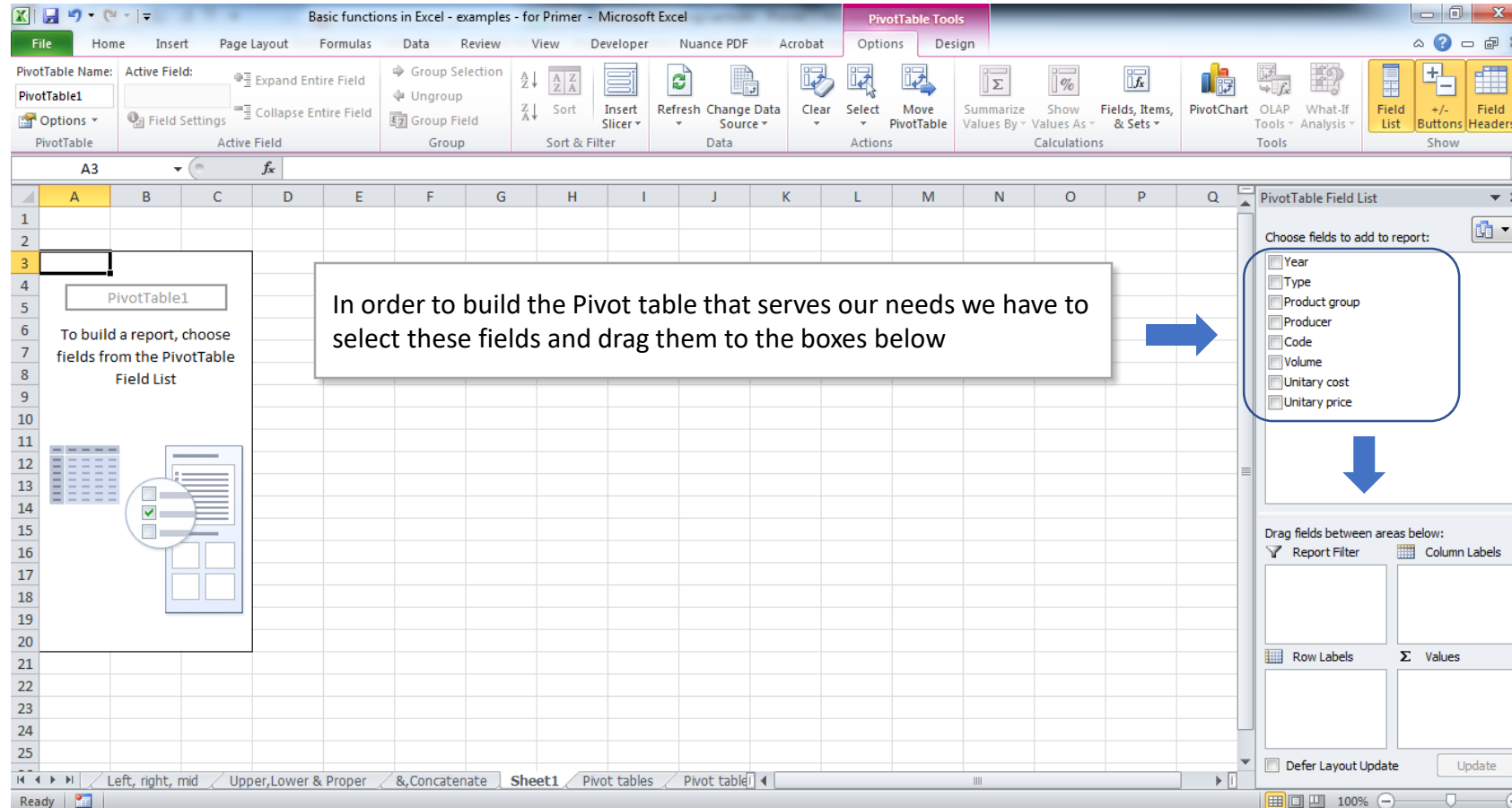
PivotTable PivotChart Year

In order to create a Pivot table, select all of the rows that you would like to include in it (including the titles of the table)

Go to the "Insert" tab and select "Pivot table"

	A	B	C	D	
15091	2013	Convenience stores	Cosmetics	Sephora	
15092	2013	Convenience stores	Cosmetics	Sephora	
15093	2013	Convenience stores	Cosmetics	Sephora	
15094	2013	Convenience stores	Cosmetics	Sephora	
15095	2013	Convenience stores	Cosmetics	Sephora	
15096	2013	Convenience stores	Cosmetics	Sephora	
15097	2013	Convenience stores	Cosmetics	Sephora	
15098	2013	Convenience stores	Cosmetics	Sephora	
15099	2013	Convenience stores	Cosmetics	Sephora	
15100	2013	Convenience stores	Cosmetics	Sephora	
15101	2013	Convenience stores	Cosmetics	Sephora	
15102	2013	Convenience stores	Cosmetics	Sephora	
15103	2013	Convenience stores	Cosmetics	Sephora	
15104	2013	Convenience stores	Cosmetics	Sephora	
15105	2013	Convenience stores	Coffee	Jacobs	
15106	2013	Convenience stores	Coffee	Jacobs	
15107	2013	Convenience stores	Sweets	Sapori di Siena	
15108	2013	Convenience stores	Sweets	Sapori di Siena	
15109	2013	Convenience stores	Sweets	Sapori di Siena	
15110	2013	Convenience stores	Sweets	Sapori di Siena	
15111	2013	Convenience stores	Sweets	Sapori di Siena	
15112	2013	Convenience stores	Sweets	Sapori di Siena	
15113	2013	Convenience stores	Beverages	TIP	
15114	2013	Supermarkets	Vegetables	Monzuro	
15115	2013	Supermarkets	Vegetables	Monzuro	
15116	2013	Supermarkets	Vegetables	Monzuro	
15117	2013	Supermarkets	Vegetables	Monzuro	
15118	2013	Supermarkets	Vegetables	Monzuro	
15119	2013	Supermarkets	Vegetables	Monzuro	
15120	2013	Supermarkets	Vegetables	Monzuro	
15121	2013	Supermarkets	Vegetables	Monzuro	
15122					

Ready Left, right, mid Upper, Lower & Proper & Concatenate Pivot tables Pivot table example Round Average: 781.6105949 Count: 120952 Sum: 44113320.37 100%



Basic functions in Excel - examples - for Primer - Microsoft Excel

PivotTable Name: PivotTable1

Active Field: PivotTable

PivotTable Tools

Options Design

Expand Entire Field Collapse Entire Field

Field Settings Active Field

Group Selection Ungroup Group Field Group

Sort & Filter Sort Insert Slicer Refresh Change Data Source Data

Clear Select Move PivotTable Actions

Summarize Values By Show Values As Calculations

Fields, Items, & Sets

PivotChart OLAP Tools What-If Analysis Tools

Field List Buttons Field Headers Show

A3

PivotTable1

To build a report, choose fields from the PivotTable Field List

In order to build the Pivot table that serves our needs we have to select these fields and drag them to the boxes below

PivotTable Field List

Choose fields to add to report:

- ☐ Year
- ☐ Type
- ☐ Product group
- ☐ Producer
- ☐ Code
- ☐ Volume
- ☐ Unitary cost
- ☐ Unitary price

Drag fields between areas below:

Report Filter Column Labels

Row Labels Values

Defer Layout Update Update

Sheet1 Pivot tables Pivot table1

Ready

PIVOT TABLES

365 Careers

Basic functions in Excel - examples - for Primer - Microsoft Excel

PivotTable Name: PivotTable1
Active Field: Count of Volume

PivotTable Tools: Options, Design

PivotTable Field List

Choose fields to add to report:

- ☒ Year
- ☐ Type
- ☒ Product group
- ☐ Producer
- ☐ Code
- ☒ Volume
- ☐ Unitary cost
- ☐ Unitary price

Fields between areas below:

Report Filter: Year

Column Labels: Year

Row Labels: Product group

Values: Count of Volume

	2011	2012	2013	2014 (6m)	Grand Total
Alcohol	136	168	194	205	703
Beverages	361	370	371	383	1485
Bread products	70	73	83	99	325
Cheese products	108	108	122	123	461
Coffee	264	350	364	375	1353
Corn flakes	70	82	90	91	333
Cosmetics	298	319	343	344	1304
Delicatessen	189	199	199	202	789
Drinks	79				79
Fresh salads	597	673	742	758	2770
Homecare products	111	112	122	127	472
Ice cream	287	290	305	328	1210
Meat	130	134	134	135	533
Sauces	287	301	301	309	1198
Sweets	249	256	259	261	1025
Vegetables	242	263	281	292	1078
Grand Total	3478	3698	3910	4032	15118

Left, right, mid | Upper, Lower & Proper | &, Concatenate | Sheet1 | Pivot tables | Pivot table | Ready

100%

We have to select what type of operation needs to be carried out for given fields

In this example Excel counts the "Volume" cells. In each of them we have the actual volume figures and therefore we would like these cells to be summed

PIVOT TABLES

The screenshot shows the Microsoft Excel interface with a PivotTable named 'Count of Volume'. The PivotTable is located in the range A3:G21. The PivotTable Field List task pane is open on the right, showing the following fields:

- Year** (checked)
- Type** (unchecked)
- Product group** (checked)
- Producer** (unchecked)
- Code** (unchecked)
- Volume** (checked)
- Unitary cost** (unchecked)
- Unitary price** (unchecked)

The 'Value Field Settings...' option is highlighted in the task pane. A callout box with the text 'Go to "Value field settings"...' points to this option.

Row Labels	2011	2012	2013	2014 (6m)	Grand Total
Alcohol	136	168	194	205	703
Beverages	361	370	371	383	1485
Bread products	70	73	83	99	325
Cheese products	108	108	122	123	461
Coffee	264	350	364	375	1353
Corn flakes	70	82	90	91	333
Cosmetics	298	319	343	344	1304
Delicatessen	189	199	199	202	789
Drinks	79				79
Fresh salads	597	673	742	758	2770
Homecare products	111	112	122	127	472
Ice cream	287	290	305	328	1210
Meat	130	134	134	135	533
Sauces	287	301	301	309	1198
Sweets	249	256	259	261	1025
Vegetables	242	263	281	292	1078
Grand Total	3478	3698	3910	4032	15118

PIVOT TABLES

The screenshot shows the Microsoft Excel interface with a PivotTable and the Value Field Settings dialog box open. The PivotTable is titled 'Count of Volume' and has 'Year' as the Row Labels and 'Product group' as the Column Labels. The data is summarized by 'Sum of Volume'.

The Value Field Settings dialog box is open, showing the 'Sum' option selected under 'Summarize value field by'. A callout box points to the 'Sum' option with the text: "...and select 'Sum'".

The PivotTable data is as follows:

Year	Product group	Sum of Volume
2011	Alcohol	136
2011	Beverages	361
2011	Bread products	70
2011	Cheese products	108
2011	Coffee	264
2011	Corn flakes	70
2011	Cosmetics	298
2011	Delicatessen	189
2011	Drinks	79
2011	Fresh salads	597
2011	Homecare products	111
2011	Ice cream	287
2011	Meat	130
2011	Sauces	287
2011	Sweets	249
2011	Vegetables	242
2011	Grand Total	3478
2012	Alcohol	168
2012	Beverages	370
2012	Bread products	73
2012	Cheese products	108
2012	Coffee	350
2012	Corn flakes	82
2012	Cosmetics	319
2012	Delicatessen	199
2012	Drinks	79
2012	Fresh salads	673
2012	Homecare products	112
2012	Ice cream	290
2012	Meat	134
2012	Sauces	301
2012	Sweets	256
2012	Vegetables	263
2012	Grand Total	3698
2013	Alcohol	194
2013	Beverages	371
2013	Bread products	83
2013	Cheese products	122
2013	Coffee	364
2013	Corn flakes	90
2013	Cosmetics	343
2013	Delicatessen	202
2013	Drinks	79
2013	Fresh salads	742
2013	Homecare products	122
2013	Ice cream	305
2013	Meat	134
2013	Sauces	301
2013	Sweets	259
2013	Vegetables	281
2013	Grand Total	3910
2014 (6m)	Alcohol	205
2014 (6m)	Beverages	383
2014 (6m)	Bread products	99
2014 (6m)	Cheese products	123
2014 (6m)	Coffee	375
2014 (6m)	Corn flakes	91
2014 (6m)	Cosmetics	344
2014 (6m)	Delicatessen	202
2014 (6m)	Drinks	79
2014 (6m)	Fresh salads	758
2014 (6m)	Homecare products	127
2014 (6m)	Ice cream	328
2014 (6m)	Meat	135
2014 (6m)	Sauces	309
2014 (6m)	Sweets	261
2014 (6m)	Vegetables	292
2014 (6m)	Grand Total	4032
Grand Total		15118

PIVOT TABLES

Basic functions in Excel - examples - for Primer - Microsoft Excel

PivotTable Name: PivotTable1 Active Field: Sum of Volume

PivotTable Tools: Options Design

PivotTable Field List

Choose fields to add to report:

- ☒ Year
- ☐ Type
- ☒ Product group
- ☐ Producer
- ☐ Code
- ☒ Volume
- ☐ Unitary cost
- ☐ Unitary price

Drag fields between areas below:

Report Filter: Year

Column Labels: Year

Row Labels: Product group

Values: Sum of Volume

Defer Layout Update: Update

The Pivot table displays the Volumes per each product category and for each of the years

	2011	2012	2013	2014 (6m)	Grand Total
Alcohol	222612	315756	384504	294168	1217040
Beverages	39624	49608	52200	22944	164376
Bread products	125700	126996	150924	178296	581916
Cheese products	40656	37776	43692	42888	165012
Coffee	1878156	2513844	2566308	2716272	9674580
Corn flakes	33456	39552	44256	43188	160452
Cosmetics	143052	144972	165888	163884	617796
Delicatessen	85692	88404	90132	91188	355416
Drinks	560892				560892
Fresh salads	541932	603456	671616	682692	2499696
Homecare products	88080	90144	91968	100608	370800
Ice cream	562044	575136	602364	640212	2379756
Meat	67992	69576	70932	72072	280572
Sauces	42756	44700	45036	46044	178536
Sweets	230316	241908	246624	250212	969060
Vegetables	345204	377772	404220	420192	1547388
Grand Total	5008164	5319600	5630664	5764860	21723288